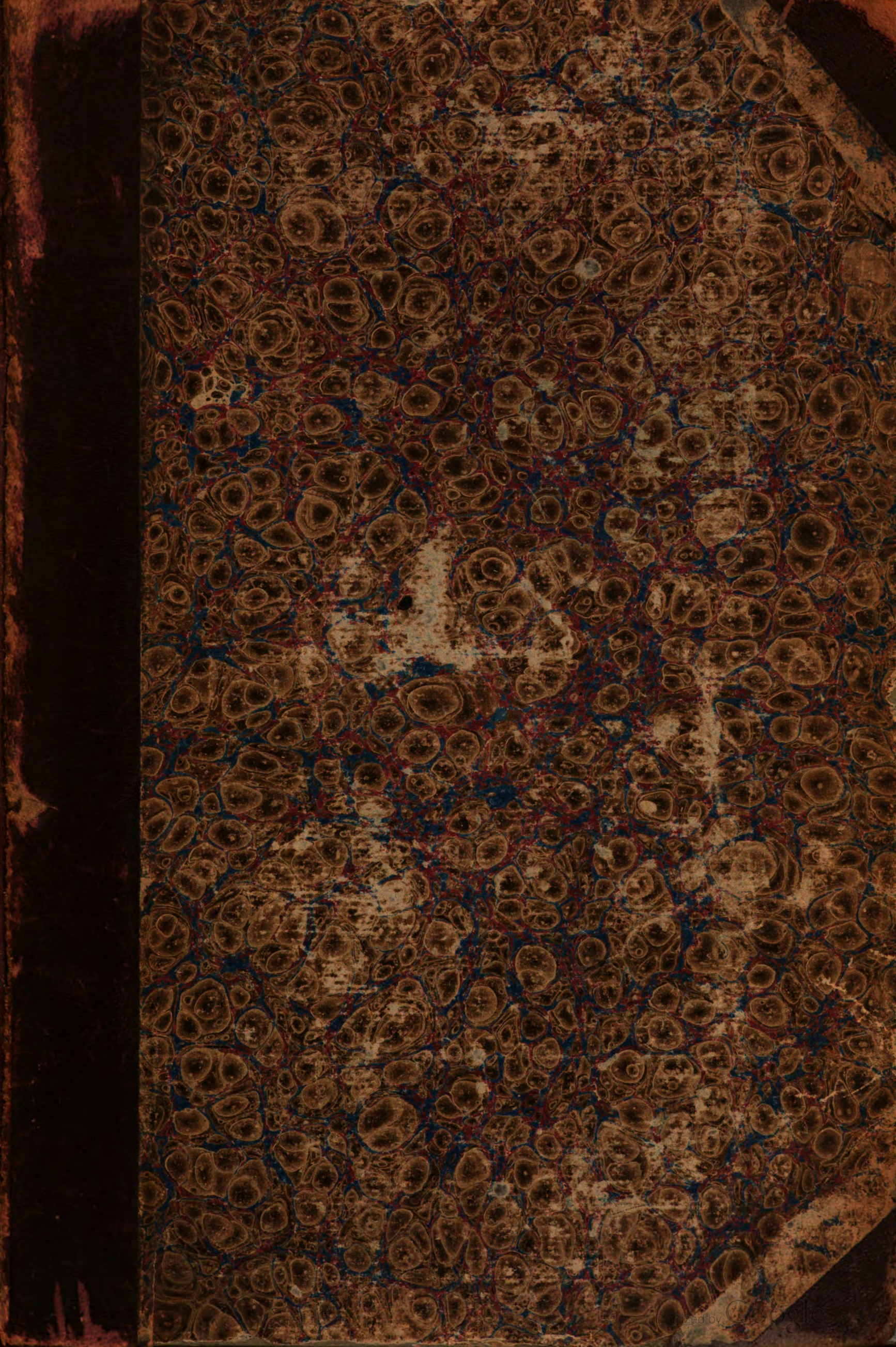

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THE
IRISH BUILDER.

Architectural, Archæological, Engineering, Sanitary,
Arts, and Handicrafts.

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THE IRISH BUILDER.

ARCHITECTURAL, ARCHÆOLOGICAL, ENGINEERING, SANITARY,

Arts and Handicrafts.

A Retrospect and Prospect.



DUBLIN during the late year, and like the preceding, has not much to show in the matter of public buildings, though throughout the country as a whole several notable structures have progressed towards completion, and others have been finished. For the last forty years and upwards

Church architecture has made rapid strides in Ireland, and the examples of Gothic taste we now see on every side, in city and town, prove with slight exceptions that a wonderful advance has been made in Art education, and, as a consequence, in architectural knowledge. The *jejuné* Gothic barbarisms so common between thirty and forty years ago are not now designed; and, where they do happen to crop up, it will be found that they are not the work of architects—at least ones deserving the name.

In the suburbs of Dublin, too, there is much improvement evidenced in the style of domestic edifices, though a great many of them are not designed by members of the profession. Well-designed and substantially-built houses are, however, in a great minority, and too often not only is the workmanship "scamped," but the materials are of a most inferior description.

The faults or evils in connection with our domestic buildings are in a great measure attributable to the want of proper supervision, and the absence of a Building Act to regulate the conditions of their erection, and enforce sanitary requirements. It is absolutely necessary that a Building Act should be procured, and its provisions enforced in Dublin, or untold evils will result not only to our posterity, but to the present generation. The present rate of mortality in Dublin plainly proves the want of building and sanitary precautions.

The preservation of the public health ought to be a question of paramount importance. We can honestly say for ourselves we have cared no trouble for years past to advance the science of human health, and to advocate the passing of sanitary laws. Month after month, and year after year, we have persistently kept the subject before our readers; and, where we failed to suggest efficient remedies, we were always glad to avail ourselves of the suggestions of others, and gave them due publicity in our columns. The present Government have, to their credit, performed useful service in the passing of some acts in a sanitary direction, and throughout the late year we have canvassed their merits and recommended their adoption and enforcement.

The Corporation of Dublin have unfortunately been remiss in their duties, but we have so often pointed out the neglect and shortcomings of that body, we will not dilate at present on the subject. The Dublin Main Drainage scheme has collapsed completely, after an unexampled career of tortuous bungling, and enormous preliminary expenditure. The Liffey is still unpurified; the streets not half paved or cleansed; and, though some improvement has taken place in the matter of public obstructions, much remains undone. We lately, as on former occasions, pointed out some necessary city improvements in the matter of opening up new streets, and forming better approaches to our main thoroughfares north and south of the city.

We would again remind our Municipal and Port and Docks Boards of the urgent necessity that exists for commencing the erection of a new bridge over the Liffey, east or west of the Custom House, and of constructing wide approaches to it on either side of the river. Perhaps on further consideration it would be found by our public bodies that the "Old Dock" could be abolished altogether, and its area converted for purposes quite as useful. If this dock was dispensed with, a good approach could be made to the new bridge which, in this instance, could be constructed east of the Custom House. The first draw-bridge would also be done away with, and this in itself would be an improvement, for traffic would be facilitated. The objections that might be urged years ago to this does not hold good now, for, by the labours of the Port and Docks Board, the North Wall is extended, and the harbour of Dublin much lengthened. House property on either side of the quays, particularly on the south side, would be considerably enhanced by the construction of a new bridge across the river, and the making of the wide approaches which we suggest.

In speaking of sanitary matters we must not forget to note that the Dublin Sanitary Association has continued its useful labours during the late year, although the Public Health Committee of the Corporation have not united with them in doing what a health committee should. We have no hesitation in saying that the Corporation would have given less attention to sanitary matters in Dublin were it not for the voluntary inspection of the Sanitary Association and the articles in the professional journals, our own included.

As regards the state and prospects of the Irish architectural profession, the president of the Architectural Association of Ireland in his recent address gave a very fair estimate in several particulars, which renders it scarcely necessary for us to speak upon the subject in detail. The Irish Institute, it

must be acknowledged, has been doing little or nothing for some time back; and all we can say is that it vegetates, but it is not living as an architectural institute ought to live. The Association is endeavouring to wipe out the stigma, but lethargy and indifference are apparent through the want of support which should be warmly given by its enrolled members. It began well its first session, but not a few of its members before long began to act upon the principle of "everybody for himself," and hence the work has been allowed to devolve upon a few earnest members. It is a shame that this should have to be stated of a body of young architects, with such an example before them as the Architectural Association of London. Nothing short of study and earnest work and unity of feeling among all the members can keep the Association in a healthy state and crown its labours with success. The reading of good papers periodically is a means to an end, but constant attendance at the Classes of Design and Construction is far better.

The president, in his recent address, dealt some hard words at the Art teaching in the Schools of the Royal Dublin Society. It is one thing to say that a system is not perfect and is open to improvement, but it is quite another to denounce the Art instruction at the Dublin Society as worthless. We think, with all kindly feelings towards the president of the Association, he has been manifestly unfair in his remarks upon this head. Are the architects of Ireland or the profession as a body—Institute and Association—able to supply a better system at present? Are they willing or in a position to supply as good or better facilities for general Art instruction as the Schools of the Dublin Society? It is clear that they are not, and it becomes our duty to recommend the youth of Dublin intended for the architectural, artistic, and mechanical professions and trades to avail themselves of the very useful instruction given at the Schools of the Dublin Society, and, by their own self-exertion inside and outside of these schools, perfect themselves further.

Art and architectural education is at a low ebb perhaps in Dublin compared with London; but, were there no Dublin Society Schools in this city during the last thirty or forty years, it would have been much lower still. Even during the last few years the Art Schools of the Royal Dublin Society have been instrumental in doing a large amount of good. A knowledge of design, as applied to manufactures, and particularly to articles and materials connected with the building and cognate trades and branches, must prove serviceable, and have a direct influence on architectural design.

We do not say the Dublin Art Schools will turn out ready-made sculptors or architects,

but pupils intended for those professions, possessing the requisite taste and industry, will find the facilities offered for study in these Schools will be of decided advantage to them. We will forbear to specify cases in point, past and recently, of what these Schools did for some pupils. Architecture and engineering aside, we hope that the artisan classes of Dublin will more fully avail themselves of the facilities alluded to. The Cork and Belfast Schools of Art are doing efficient service.

Our learned bodies throughout the year, as might be seen in our columns, have produced some satisfactory results. The Dublin Society, apart from its Art Schools, has pursued the even tenor of its way in connection with agricultural interests, husbandry, and the appliances belonging. It is old in years and in usefulness, but it still can make itself more useful by practically enlarging the sphere of its labours.

The Royal Irish Academy has signalled the late year by some valuable papers, and utterances, and publications, on the part of some of its practical and scientific members. Together in public expression, though apart as public bodies, the Royal Irish Academy and the Royal Historical and Archæological Association of Ireland, have earnestly interested themselves in the question of the Preservation of our National Monuments, and we were pleased to announce, some months since, the appointment through the Government of a custodian, whose office is to see that certain of our valuable architectural memorials are not allowed to perish through ruin or by vandal hands. This act, however, is but an instalment of what is absolutely necessary, for there are numerous gems of ancient native architecture which need preservation.

Much has been written on the subject of "Restoration," and there are many who look upon the question from a different point of view. Of the two principal "restorations" in this city—one completed some years ago through the munificence of the late Sir Benjamin Lee Guinness, and the other in course of completion through the liberality of Mr. Henry Roe—much might be written. It must be admitted that the works at Christ Church Cathedral, considered as a whole, are greatly superior in style and workmanship to those at St. Patrick's, but the acts of liberality that signalled the carrying out of both are equally honourable to the princely merchant citizens who have been so bountiful in their gifts. Christ Church Cathedral "restoration" shows some conscientious "restoration" or reparation, and a large amount of admirable rebuilding. On the debated question of "Restoration," *per se*, we are not inclined to hold forth at present.

There are other restorations going on or contemplated through the provinces, of which we will have occasion to speak throughout the year. Of the Kildare Cathedral "restoration" we have already spoken, and we may observe again that, on the score of good workmanship, we have no doubt, but we have our doubts that that cathedral, when completed according to the designs of the architect, will be a "restoration" in the true sense of the term.

There is not much to say in reference to the Royal Hibernian Academy; it lives through its annual exhibition, but its inner organised life and action do not amount to a great deal. It could be made an eminently

useful Art School, both in the interest of painters, sculptors, and architects; but, though its noble founder was an able architect, the Royal Hibernian Academy has never been of much use to the architectural profession. Of course, its exhibitions tend to good, and they are worth having, meagre as they are. We do trust that this academy will be made more serviceable to this city and the country in general by some well-digested scheme of re-organisation. Our architects, artists, and others complain of Art being at a low ebb in this country, and yet there is more than one institution in our midst founded avowedly for Art purposes, which are allowed to exist from year to year, bearing little or no results.

Apropos to the subject of Art, although we had a centenary celebration of O'Connell, his monument is not yet erected, through bad management. The artist's death delayed the work, no doubt; but long previous to our great sculptor's demise, the monument and statue might have been in its place. The Grattan statue, by the same artist, is expected to be unveiled in this city early this month. The Guinness testimonial, also the work of our lamented artist, has been for some time in its place; and Mr. Farrell's fine statue of the Archbishop of Tuam was completed and unveiled during the late year. Other statues and memorials, including that of the late Sir John Gray, are either in hands and approaching completion or about being put in hands.

The position of the Assistant County Surveyors and the Civil Servants has elicited much public discussion. The grievances of the former were real, and their case still demands inquiry. No half-hearted Government measure can do justice to this class of men who always labour hard, are badly remunerated, and who are expected at the same time to be men of intellect and practical skill. The condition of the Civil Servants has improved greatly of late years, but with regard to services in this country either in connection with the Government or outside it, justice is long delayed.

Throughout the year we devoted considerable attention to the subject of waste land reclamation, and the improvement of the dwellings of the agricultural labourers. We are glad to record some improvement in respect to the latter, but very small as a whole. Landed proprietors and others can now obtain loans through the Board of Public Works, and one of their first acts ought to be the improvement of the dwellings of their tenants and labourers. It is a scandal to see the thousands of mud hovels which still disgrace the estates of the landed proprietary of this country.

The reclamation of waste land must be sooner or later begun, either by Government or capitalists inside our own shores, or it will be moved in by parties outside. Important and far-reaching benefits are involved in the successful prosecution of the work of waste land and foreshore reclamation—building, native industries, non-emigration, and the future food of our people.

There has been very little disturbance in the labour market in Ireland during the late year, except in one or two places north and south, and on the whole the relations between capital and labour are amicable. How long they will last, it is of course impossible to say. Employment in several branches was very good throughout the year. Agricultural

labour was rather scarce in parts of the country, and in the towns and cities building industries were fairly good.

Our public squares are still closed, but their free opening must be insisted upon, as they are needed for the recreation of our working classes. The long-talked-of people's park north of the city is still a project, and no more; but while the Corporation of the city is idle, some of our townships and provincial boards are moving earnestly in the matter of people's parks and free libraries.

We have lost a few professional men of note in connection with architecture and the building arts during last year, and some few more connected with literature and the printing and publishing trades. These we have noticed in our last volume. Some were very aged, but much respected withal, and by their deaths valuable links that connected us with the last century have been severed in their particular fields.

It is scarcely within our province to speak of the architects and engineers of note who passed away during the late year in the sister kingdom. Their obituaries have appeared in our London professional contemporaries, and short notices of the more prominent of them have been given in those pages. One, however, among them, the late E. W. Pugin, had been well known in this country through his many ecclesiastical works, as was his eminent father before him. Wayward in temperament, but vigorous in intellect, yet withal generous, he worked and studied hard, and suffered not a little. Smarting, betimes, under real as well as supposed wrongs, he uttered hard words and hit some of his brethren severe blows, but over his grave now, there cannot be other feelings than sincere regret that he has died young. Though not equal to his parent, he was a worthy son of a worthy sire. Gothic architecture, so-called, and the profession owe much to the Pugin family, and we trust that the name will still live, and be borne honourably by the still-living representatives of that distinguished family.

Of the literature of the architectural profession in book form, there has been nothing of note issued during the late year in Ireland on the part of architects, though many of them have contributed papers which have been read in their respective societies. Some native and resident engineers, practising in Ireland, have also contributed some useful papers, and one or two have published reports on important subjects bearing upon the profession, as well as issuing new editions of standard works. We have noticed these contributions to the science of engineering in our last volume. In this country as well as in the sister kingdom, the interests of the engineering profession is better attended to than that of the architectural, and engineers, as a body, are more united and alive to professional matters that concern their welfare than their elder brethren.

To anticipate what the future may unfold is impossible, though we might, from existing tendencies, outline some reforms and improvements that are not only possible but probable. We are not croakers, and we do not look with despondency either upon art or architectural matters in this country. Matters with us are, to a degree, in a backward state; but despite much apparent lethargy, the cause of art-education and architecture is making a steady though slow advance. To observe this progress one must look back,

and to estimate truly, one must have lived through this progressive movement extending over many years. The work of one year, or two, or even half-a-dozen, may show small results, but since this journal was first issued a reference to its pages will show that Ireland has made a good stride indeed in progressive improvement in all that concerns art and trade. Female education, too, has advanced in this country, and in addition to the usefulness of the Dublin Schools of Art in this direction, we may point to the establishment and successful management of the Queen's Institute. The field of women's labour as well as that of men's is widened, and good must eventually result, not only to individuals, but to the community.

To our own journalistic labours in the cause of the profession, and of archaeology, sanitary improvement, and general literature, it does not become us to say much; but, standing alone, as we have done in this country, and always acting in an independent manner, we hope we are entitled to put in a small claim for services rendered, ungrudgingly, to all worthy workers in the public interests inside and outside this island. As we have acted in the past, so shall we in the future, to uphold the national and general interests we have aspired to represent. We claim the support of the profession in this country as a right, and those varied branches linked to the building arts; but, whether it is accorded to us or not, the circle of readers we appeal to by our labours, even outside the profession, is large enough to render our position secure, and our mission a necessary one in this age, and particularly in this country. With these honest sentiments upon our lips, and with no misgiving, we commence the eighteenth year of the *IRISH BUILDER*.

ON THE RE-BUILDING AND RE-MODELLING OF CARLISLE BRIDGE.

It takes as long in Dublin to remove, re-build, or re-model a bridge, it seems, as to erect a public monument, particularly if the municipal authorities, directly or indirectly, have any hand in the matter. There have been numerous plans proposed and exhibited for effecting the above purpose, but decade after decade passes over, and again and again crop up former proposals, slightly modified, of course, without any prejudice to the original plans of the respective authors.

It is always well to have two irons in the fire; but, from our experience of architectural and engineering competitions, we rarely witnessed the selection of designs wherein the competitor was doubly or trebly armed. Some poet has written, "Thrice is he armed who hath his quarrel just." If Mr. Thomas Turner, of Belfast, succeeds in having either of his plans for the re-modelling of Carlisle Bridge adopted, he will no doubt be pleased. They are not the worst that could be adopted, neither are they the best. His two plans, we understand, have been referred to the engineer of the Port and Docks Board for consideration, both of them having an iron support for the roadway. One shows a level bridge; the other an uplifted centre, to meet supposed requirements during high water.

Mr. Turner, in his "matured plans," proposes to have a straight iron bridge with a level roadway, 1 ft. higher than the West-

moreland-street side of the present bridge, and the soffit or underside of the girders exactly the same height above high water as the highest part of the centre of the arch of Essex Bridge; that the parapet with its balustrade and coping, like the pedestals and figures on the piers, be of stone, so that all that would be seen of the bridge above the roadway would be of stone, whilst the support alone of the roadway would be of iron. The ironwork, it is suggested, might be painted to correspond in colour with the stone. This design is what may be called a "half-and-half" construction, and perhaps it is intended by it to propitiate both architects and engineers.

Mr. Turner is of opinion that no construction in the present case could accomplish the double object of the lowest level for the roadway with the greatest headway above the water so simply and so economically, and also so completely, as an iron girder bridge in three spans, and reasons thus—Because it is uniform in construction from beginning to end, having equal height at all places over the water; because in three spans lesser depth is required, and, as a consequence (in his opinion), less expense in construction; because the foundations of the piers for the extent of the present bridge are already provided, and the present material could be utilised; and because the present walls are sufficient to carry the ends of the iron girders, leaving no necessity for building abutments, which would be required to receive the thrust of the arch. The arrangement proposed, Mr. Turner further adds, provides a greatly increased waterway than that which would be afforded by the continuation of the arches of the present bridge, as recommended by the City Engineer. By these plans submitted by Mr. Turner it is proposed to carry the extensions at either side of present bridge on stone piers or arches, instead of iron cylinders, as being better in every way, and much better for architectural effect.

We are of opinion if Mr. Turner re-considered his plans once more, they would likely come forth re-matured with much advantage to his own taste, and also with more credit to the city from an architectural point of view. We are not, we must honestly say, in favour of Mr. Turner's plans in their present shape, nor on the score of economy do we think that much would be gained. Whatever might be saved on the score of cost in adopting Mr. Turner's plans would, we think, be lost in architectural effect. A complete stone structure, of sufficient water way and height, with a nearly level roadway,—if this could be secured either by the re-building or re-modelling of Carlisle Bridge, we would prefer to see it, as the structure would be more in harmony with the architecture in the vicinity of its approaches. The substitution of iron girders for stone arches, without entirely re-building the present bridge, piers, &c., would, of course, secure a nearly level roadway.

In the cases of Richmond, Whitworth, and Queen's bridges, the roadway is but slightly elevated, and offers no impediment to traffic. The present Carlisle Bridge, like old Essex Bridge, has its roadway much elevated, but as in the former cases of the three bridges named, we are of opinion that a nearly level roadway could be secured in the re-modelling of Carlisle Bridge, still continuing an entire stone structure, and that the work could be satisfactorily executed without materially

affecting the headway above water, except in case of high tides.

Iron is a useful building material, and it can be used with much advantage in various forms of construction; but railway bridges and iron railway stations or roofs stand on a different footing altogether from bridges intended to span a river in the centre of a city, and where harmony is necessary with existing architecture. Let us by all means, if we can, preserve the credit that attaches to our city through its fine public buildings, and only turn to iron where it is absolutely necessary. We are getting rid of timber bridges everywhere for years, save for temporary purposes, as well as wooden houses; the same does not exist for abolishing stone, and in the latter case there is no fear that like coal the deposit or strata will be soon worked out. When we shall commence to build our houses altogether of iron, it will be time enough for us to think of dispensing with stone bridges. Our greatest works in statuary and in architecture are in stone, and architecture as an art can only be fitly sustained and perpetuated by the use of the same natural material.

THE LITERATURE OF GOTHIC ARCHITECTURE IN IRELAND.*

THE abbey church of Boyle, in the town of that name in the County Roscommon, is another of these ecclesiastical structures possessing some noticeable features belonging to the early years of the Cistercian Order in Ireland. The *Monasticon Hibernicum* of Archdall may be consulted as regards its annals or a portion of them. The ancient church consisted of a nave, with aisles, central tower, north and south, with two eastern chapels to each; but the north and south aisles have long disappeared.

Mr. Brash describes the existing remains in detail. The western doorway, he thinks, is rather small for so fine a church, and it is of the Early Pointed character, with good jamb and arch mouldings, and external label. The arcades of the nave had eight bays; four of the arches remained on the north side, but these are built up and propped by rough buttresses, constructed to prevent what remains of the arcade from falling outwards. The three westernmost piers are rectangular, with moulded responds, which have richly-carved capitals; these have octagonal abaci, from which spring the soffit-mouldings of the arches, which on this side are Early Pointed. The fourth pier is octagonal; the fifth, sixth, and seventh were square, the angles enriched with semi-shafts, and also one on each face. The arcade on the south side is perfect; the three westernmost piers are rectangular, and correspond with their fellows at the opposite side; but the capitals are very richly carved, men and animals being introduced; the human figures appear to be warriors wearing kilts, and, as observed by our author, are interesting studies, as shewing the costume of the period. Four of the piers are cylindrical, 3 ft. 8 in. in diameter, having moulded bases, with the tongue or leaf ornament in the angles of the plinth; the capitals are of the cushion form, with fluted bells. The arches on this side are semicircular. The clearstory windows are small semicircular-headed ones, and very plain. Between the nave arches are moulded corbel-shafts, with richly-carved caps, from which spring the groin-ribs of the vaulting.

As given by Mr. Brash, the dimensions of the building are: nave, 131 ft. 6 in. in length, and 24 ft. 3 in. in breadth, clear of piers, which are 3 ft. 8 in. thick; the aisles were 9 ft. 1 in. This makes the entire breadth 49 ft. 9 in. The entire length from east to west is 180 ft., and the breadth across the

* See ante.

transepts is 72 ft. 6 in. The aisles are entirely gone, save the foundations of the external walls. The tower is at the junction of the nave, chancel, and transepts, and is described by Mr. Brash as resting upon three semicircular and one pointed arch; these are 46 ft. in height to the soffits, and the opes between the piers are the full breadth of nave and chancel. The nave arch is of two square orders, resting upon corbel-shafts, which have moulded caps enriched with cable ornament. The arches of transepts have also two square orders, the under ones springing from semicircular responds, having cushion capitals. The chancel arch alone is pointed; it has three square orders, with a square label; the piers on which it rests are moulded, and have cushion capitals, with scalloped bells. The tower is square, like all Cistercian structures in this island, massive in feature, but plain, and, as it now stands, scarcely rising above the gables. The chancel is 22 ft. 9 in. from east to west, and 22 ft. 2 in. wide; it is covered by a plain high-pitched pointed vault. The east window is Early Pointed, of three lights, with plain jambs and label mouldings. The transepts are 24 ft. 8 in. wide, exclusive of the eastern chapels. In the gable of the north transept is a pointed doorway, and at each side a small semicircular-headed window-ope. In the south transept there are no lights, save a pointed oval in the top of gable. There are two chapels off each transept; those attached to the north are 9 ft. square; those to the south, 8 ft. 3 in. each. The entrance arches are Early Pointed, springing from piers, variously moulded, and enriched with shafts, having cushion capitals with fluted bells; they are covered by pointed vaults of high pitch, and each lighted by a small semicircular-headed ope at the east end; in the south wall of each is a small square aumbrey or recess, perfectly plain. There is no sedilia or piscina, unless the former may be considered one. This recess in the south wall of chancel is 6 ft. wide by 9 in. deep, and it has a torus moulding on angles of jambs and arch.

The above is a description of the principal features of Boyle Abbey Church nearly in the words of Mr. Brash. Our author further observes that all the Romanesque masonry is well finished; the piers, arches, responds, window dressings, quoins, &c., are executed in light brown freestone, and of small, neatly-cut ashlar blocks. The nave piers are built of like material, in courses of from 9 in. to 12 in. high. Mr. Brash furnishes in his work a ground plan, sections of the piers, and an elevation of circular piers.

The following reflections or observations conclude his notice of the architecture of Boyle Abbey:—"It is quite evident that the date given in the *Annals of Boyle*, already quoted, for the foundation of this church—namely, 1161—is fully borne out by its existing details. It was commenced towards the close of the Romanesque period, and would appear to have been carried on so slowly as not to have been completed until the First Pointed style had been fully developed, as its consecration took place in A.D. 1218. Hence the anomaly of round arches at one side of the nave and pointed at the other; of the three round arches under the tower, and the fourth pointed, though springing from Romanesque piers; of the pointed arches of side chapels, also springing from Romanesque piers. It is more than probable that the building had been far advanced in the latter half of the twelfth century; that it had stood still, owing to want of funds or the distractions of the Anglo-Norman invasion; and that, when resumed, it was completed in a style then become fashionable. The west doorway I should consider an insertion, as the west gable must have gone up to a certain height with the nave piers and arches. The area of the cloister-court is still enclosed, but the ambulatory and arcading no longer exist; on two sides are some remains of the kitchen, refectory, dormitory, and hospitium, in a very ruinous state."

Mr. Bell, in his "Treatise on Gothic

Architecture in Ireland," alluded to in the opening of these papers, gives a short description of Boyle Abbey. Speaking of its date as given by Archdall, he remarks:—"If this date be correct, it originated before the English invasion; and as Connaught maintained its independence longer than the other provinces, we may presume this to be a genuine Irish structure. As such, it is calculated to do credit to the taste and talent of the country at that period."

The causes of the changes of style exhibited in the architecture of the remains at Boyle, are probably explained in the description given by Mr. Brash; but it does seem odd, indeed, that there should be such variations in the style of the supporting piers. We do not marvel at doors and windows exhibiting different styles of architecture, for insertions have been many at different periods.

Jerpoint Abbey,* County Kilkenny, is next described by Mr. Brash. It is somewhat similar on plan to Boyle, comprising a nave with aisles and transepts and a chancel with two chapels east of transepts. This building, like the preceding one, exhibits some peculiar features, and shows additions ranging from the twelfth to the fifteenth centuries. A large portion of the original buildings still exist. The tower is a rebuilt structure almost in its entirety. We shall not enter into long details, but will note that the nave is in length 107 ft. 6 in., and in breadth 27 ft. between the arcades. Unlike Boyle and Dunbrody, it had no western entrance, but the present one is a plain pointed ope in the north aisle. Each arcade consists of six bays, and the piers are alternately round and square, the latter chamfered on the arrises; the piers are low, the bases are moulded on square plinths, the caps of the scalloped pattern, with a rather heavy abacus. The arches of the north arcade are all pointed, of high pitch, and perfectly plain, with no moulding or chamfer, but both faces have a light label consisting of a square and chamfer.

Mr. Brash would be of opinion that these arches are a reconstruction, were it not that the masonry is exactly of the same class as that of the Romanesque portions; and also that over each is a range of clearstory windows, semicircular-headed, and to all appearance of the date of the original work. He thinks it is unaccountable that the builders of this church should have placed such light arches over the low massive piers of a distinct and different order, and again above the pointed work evidences of a different type. The original south aisle is gone, the present is a rebuilding as a protection. The wall of the north aisle is of late mediæval date, and the present entrance is a rude modern addition. The tower is central and of massive dimensions, being 32 ft. square from out to out, rising from four high-pitched pointed arches, springing from massive piers, the arches each having a chamfered sub-member which rests upon a moulded corbel. The groining is perfect, the groin ribs a square and chamfer. It rises one story only over the roof of nave, and has a small two-light perpendicular window on each face; it is crowned by a parapet crenelated in a picturesque manner, exhibiting the characteristics of Irish towers. The chancel is 27 ft. 2 in. from north to south, and 20 ft. 9 in. from east to west. The east window has three lights, with decorated tracery. The internal jambs and arches are enriched on the angles with a hollow and ball flower; under the sill is a string-course consisting of square and chamfer. The original window was a semicircular-headed triplet, portions of which are still to be seen. The chancel is covered by a plain pointed vault; the original sedilia is in the south wall; the piers and arches are enriched with chevrons, close to which is a double recess divided by a short central shaft. This is not a piscina, Mr. Brash thinks, but probably an aumbrey. At the same side is a small two-light window with ogee arches under a square head.

The north transept measures 23 ft. 6 in. from north to south, and 25 ft. 6 in. from east to west. In the north gable are two semicircular-headed window-opes, one over the other, and another in the south wall. There are two chapels at the eastern side of this transept, measuring each 10 ft. 6 in. in the clear, having plain pointed vaults. They are connected with the transepts by plain pointed arches, springing from piers, having angle shafts, which are finished with convex flutings; these piers have richly-carved capitals of Romanesque character. The arches were finished with labels, one having the nail head enrichment; in each is a two-light decorated window, but the mullions are gone.

The south transept is of the same dimensions as the north, as are also the chapels, which exhibit similar construction in all their features to those of the north transept. All the chapels are covered by pointed vaults.

Mr. Brash describes the masonry of the original portions of the church as of admirable character, the walling being of well-dressed rubble, with few spawls, the quoins, window-dressings, piers, and arches being of a fine-grained freestone resembling Caen stone, very neatly dressed and fitted. The columns and piers were built of small stones in courses of from 7 in. to 12 in. high; the latter portions of the work are of limestone, both walling and dressings, the workmanship being very inferior to the quality of the earlier work. The conventual buildings were, as usual, at the south side of the church, and appear to have been extensive.

It may be noticed here, as it is by Mr. Brash, that in 1853 some praiseworthy work was performed through the exertions of the Archaeological Association, the ever useful secretary of that body having organised a subscription for the purpose of staying the dilapidation that had set in at Jerpoint. The abbey church is now enclosed for some years, and we hope it will continue to be protected from future injury.

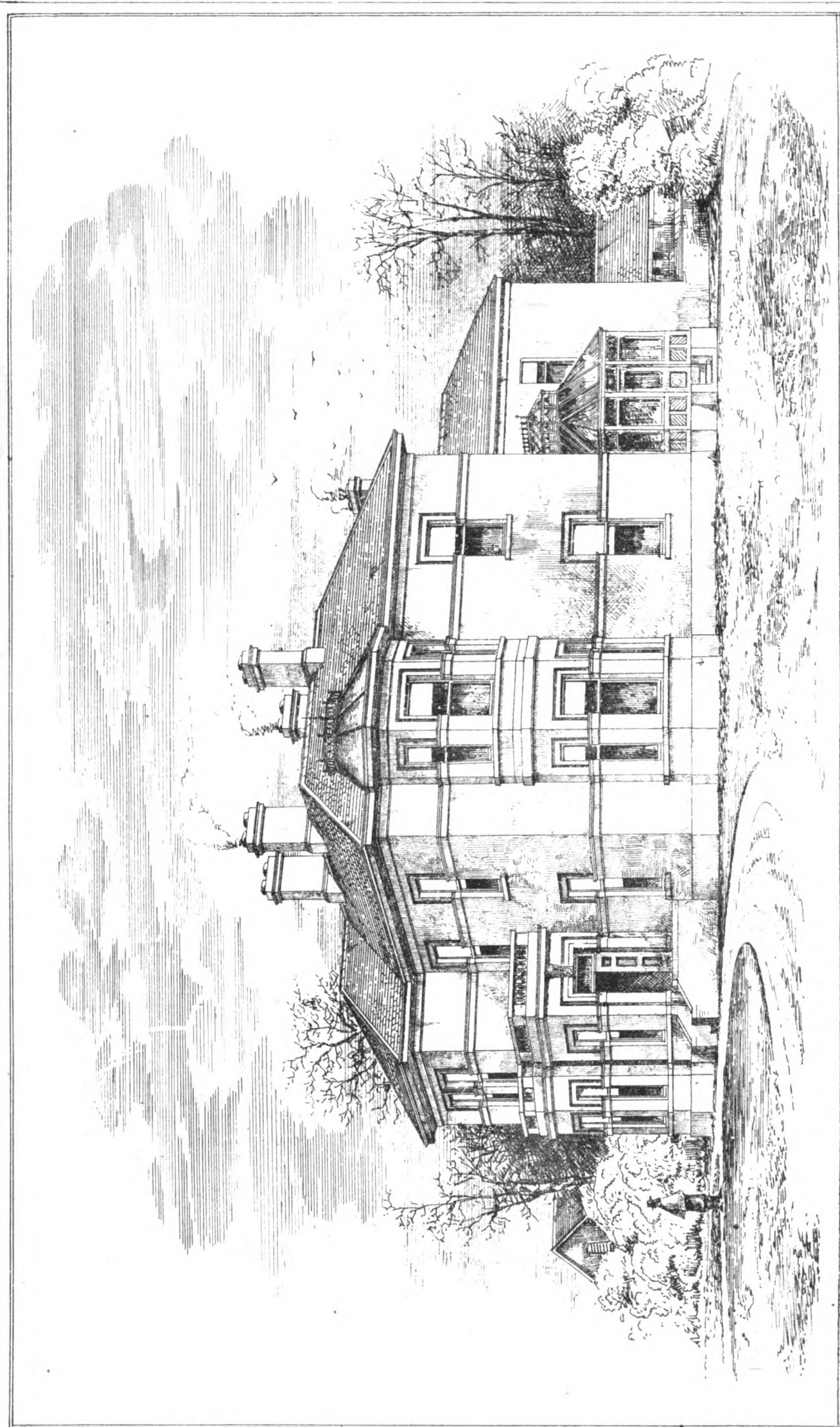
In another paper or two we will close our remarks in reference to the peculiarities of Irish Gothic architecture and art as described in Mr. Brash's work; but supplementary thereto we will have occasion to pass under notice the author's views on the Round Tower controversy—Pagan and Christian.

THE QUEEN'S INSTITUTE EXHIBITION.

DURING the last month, the fifth annual exhibition of works of art industry opened at the rooms of the institute, Molesworth-street. Many of the objects possess much merit, and include examples of geometric construction, practical perspective, free hand outline, outline from casts, shading from the flat, shading from objects, shading from casts, drawings of flowers and foliage from nature, chalk studies from the life, drawings of flowers, fruit, and landscapes from the flat, drawings of the same from nature, studies of colour from objects, and lastly, designs drawn for manufacturing purposes. The art students of the institute are under the instruction of Mr. A. J. Payne. Among the designs exhibited, one has been used in manufacture by the Messrs. Pim, of this city. The painting of flowers in water colours, and the painting on china are under the care of Mr. Cooper, and there are several exhibited which show careful execution. There is a good display of tea and dessert china service, and the pottery specimens are also good. There is an excellent breakfast service on view, prepared for a lady in Leeds. Some handsome vases evidence proficiency in painting on pottery, and we note some well-painted fire tiles for a Belfast house. On the whole, the exhibition is very creditable to female talent, and we trust that the facilities afforded by the institute will gain the support to which it is entitled on the part of the young lady portion of our community, whose field for public service and self-help has been hitherto too limited. By the existence of this and kindred institutions much good will

* Illustrated in number for November 15, 1875.

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South West View

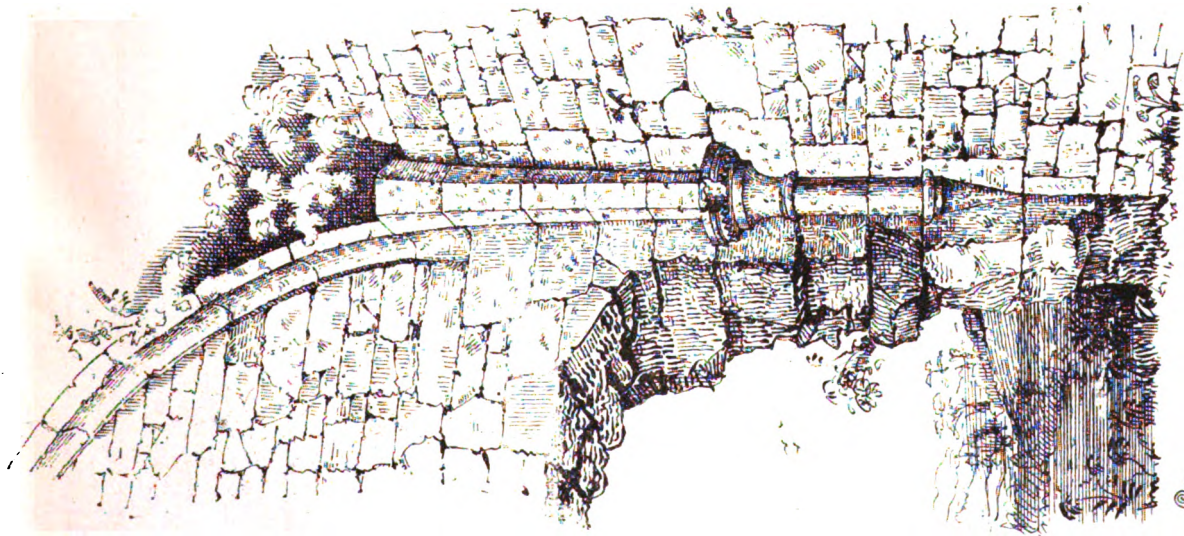
WHITE HOUSE : CARRIGAH

Willm & Gilman, Architects.

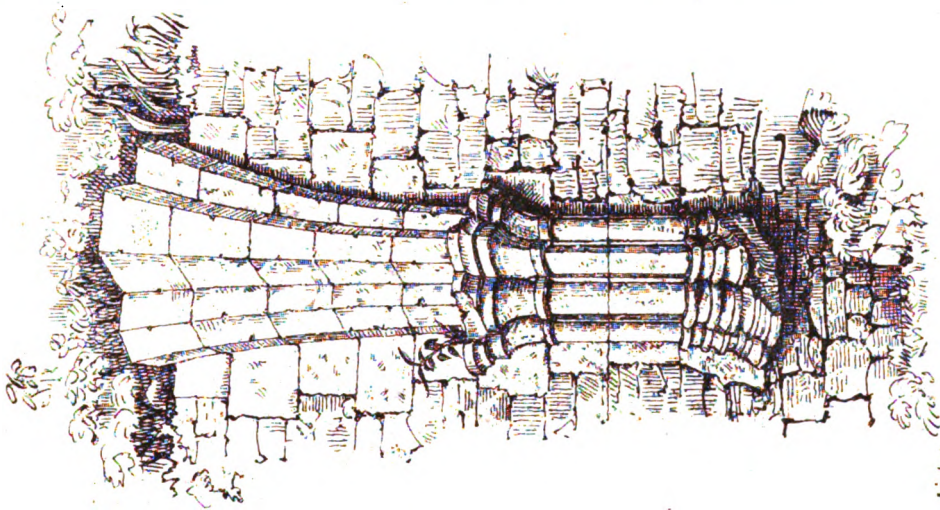
Inen Abbey - Downpatrick

Details in Side Chapels.

Measured and drawn by James J. Phillips.



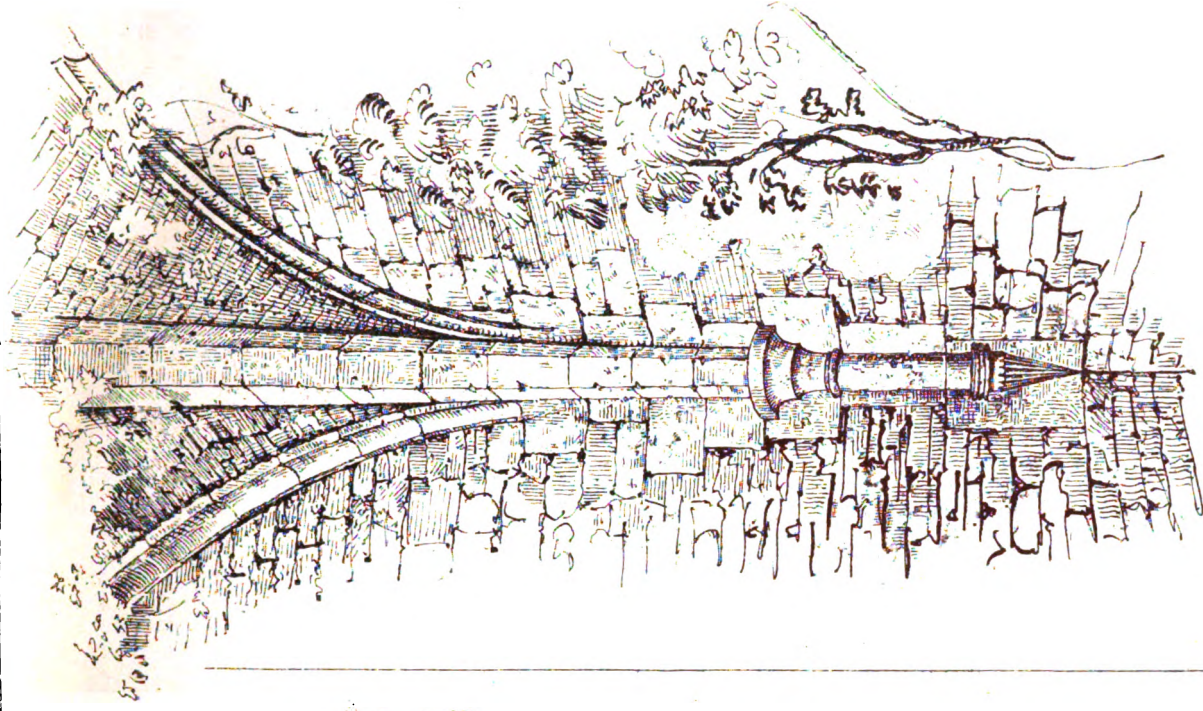
Corbel and Springing of Groining
North Chapel, North Transept.



Scale of inches
for elevation - 1 inch = 1 foot
Scale of feet
for section - 1 inch = 1 foot



Corbel and Springing of Groining
North Chapel, North Transept.



Scale of inches
for elevation - 1 inch = 1 foot
Scale of feet
for section - 1 inch = 1 foot

Corbel and Springing of Groining
North Chapel, North Transept.

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be effected, and suitable employment will be provided for a respectable class who are willing to help themselves financially, as well as helping the cause of industrial progress in the fine and other arts as applied to manufactures.

WHITEHOUSE, CARRIGANS.

We illustrate in present number a new residence erected for William J. Hanna, Esq. (late of Philadelphia, U.S.A.), near Carrigans, on the Irish North Western Railway, five miles from the City of Derry, and which has been built from the plans of Mr. William M'Elwee, architect, of Derry.

The house contains on ground floor—entrance hall, drawing and dining rooms, with service room, mistress's pantry, and parlour. The wing to rear contains—kitchen, requisite offices connected therewith, and servants' apartments. On chamber floor ample bedroom accommodation is provided, with bath-room, closets, &c.

Stone raised on the property has been used for walling, and is finished on outside with Portland cement, and rough cast. The works have been carried out by contract, under superintendence of the architect, by Mr. Alexander M'Elwee, builder; the plumber's work being executed by Mr. A. Baxter, and painting, &c., by Mr. H. M'Indoe, all of Londonderry.

INCH ABBEY, COUNTY DOWN.

Our description of this ancient building (of which we present some lithograph details) is held over until our next issue.

CORK CATHEDRAL AND CORK-HILL.

At a meeting of the Cork Corporation held a few days ago, the recommendation of the standing committee to grant a sum of £2,500 towards the opening of a carriage drive to the Cathedral from the eastern side, was considered. The work will involve the abolition of Bishop-street and the formation of a new street to the north of it 40 ft. wide. A deputation consisting of the dean and other clergy of the Cathedral, with some of the parishioners, waited upon the meeting in support of the recommendation. The committee of the Cathedral will, it appears, expend in addition to the grant of the Corporation a further sum of between £2,500 and £3,000. The recommendation of the standing committee was unanimously agreed to.

In the face of the above, when, may we ask, will our Corporation commence operations in re the proposed new street from Dame-street to Christ Church Cathedral? It would appear that the members of the Dublin Corporation have cork legs, they hobble on so slowly; and patterns in Cork will be disdained to be followed by the somnolescent under the dome on Cork-hill. "Arrah be aisy and let us alone," is the chronic cry of the drainers and main drainers in council, who know more about the use of corkscrews than the use of the theodolite for levelling purposes.

LORD ROSSE'S NEW TELESCOPE.

A NEW telescope has been completed for the present Earl of Rosse, who, like his late father, possesses kindred tastes. It has been turned out of the foundry of Messrs. Spence, Cork-street. The new instrument is not so large in size as the gigantic one erected by the late earl at his family seat at Parsons-town, but in connection with the new instrument there are many improvements. The telescope, pedestal, "cage," and nearly the entire work, have been manufactured at the above-named establishment, the time occupied being about two years. The diameter of the speculum is 3 ft. 6 in., and the full length of the instrument is about 22 ft.

The pedestal on which it is mounted is about 12 ft. high, but as this will be placed in a pit about 10 ft. deep, the extreme height of the instrument, as seen above ground, will be about 25 ft. The chief novelties of construction, however, are the application of a revolving motion to the instrument, by which it can be turned at will, by the observer, to any point of the heavens. The late earl's telescope, at Birr Castle, has what may be termed an oscillating motion only, but in the present case the "cage" is fixed on a circular railway, the observer being placed in the "cage" at the same height as the top of the telescope, and he can move himself round at the same time as the instrument moves. The new instrument will shortly be erected in the lawn at Birr Castle. We hope the present lord will be successful in his explorations of the heavens, and will be able ere long to catch and scan

"The light that left some distant stars ten thousand years ago."

THE ARCHITECTURAL ASSOCIATION OF IRELAND.

An ordinary general meeting of this association was held on Thursday evening, which was well attended. Mr. J. J. O'Callaghan read a paper on "Working Drawings." The following were admitted as members:—Wm. Fogerty, F.R.I.B.A.; Henry M'Connell, and W. A. Simpson.

THE DUBLIN SCHOOL OF ART.

The exhibition of the works of the students at the Royal Dublin Society's School of Art opened last Monday. An adjudication of medals and prizes took place on Tuesday, the 21st ult., the judges being Mr. Farrell, R.H.A., Mr. Henderson, and Mr. Chambre, assisted by Mr. Davis, chairman of the Fine Arts Committee, and Mr. J. Dubedat, deputy chairman. The objects are considerable, and many of them excellent. The head master, Mr. R. Edwin Lyne, and his assistants are entitled to the credit they have justly earned for their labours. We have not space to enter in detail in this issue as to the prizes obtained and the character of several of the works, but will do so in our next publication. Elsewhere we have incidentally alluded to the usefulness of the Dublin Schools.

THE CORK SCHOOL OF ART.

The annual distribution of prizes at the above school took place on the 22nd ult. in the Theatre of the Royal Cork Institution. The Mayor presided.

Mr. Brennan (head master) read the report, from which it appeared that the total number of students who attended the school during the year was 222, being an increase of 34 on the preceding year. The number of works sent to South Kensington for inspection was considerably in excess of those sent in former years. They amounted to 458, and the number of prizes awarded was very nearly double of that gained last year—26 this year as against 14 last year. All those who presented themselves for examination in building construction were successful, two of them obtaining Queen's Prizes. The prizes which his worship the Mayor so kindly offered to the school, as well as those from South Kensington, had been eagerly competed for, and had helped to keep alive the spirit of emulation which was so conducive to the well-being of a school. In the report, Mr. Brennan referred to the success of former pupils at the school. Mr. J. P. Addey who received his art instruction in the school, was in March last appointed head master of the Londonderry School of Art, and Mr. Samuel J. Murphy, late pupil teacher in the Cork School, was recently placed in charge of the Waterford School, so that out of the seven schools of art in Ireland the masterships of two were filled by former students of the Cork School. In his report Mr. Brennan also mentioned

the success of Mr. Matthew Mullins, who took first prize in the advanced stage in the Technological examinations held by the Society of Arts, and also the first prize offered by the Coachmakers' Company of London, the former consisting of their certificate and £7, and the latter the certificate, silver medal of the company, and £3. These prizes were competed for by students from all parts of the United Kingdom. Having referred to the inadequacy of the accommodation afforded by the School of Art in its present state to the requirements of the pupils, Mr. Brennan concluded by testifying to the increasing care evinced by the students in the preparation of their works.

The Mayor, having distributed the prizes, expressed the satisfaction it gave him to be present on that evening. It was a pleasant thing to find together on those occasions people of all classes and all grades, for the purpose of taking part in so interesting an event. They had seen by the progress shown there that Cork was prepared to assert the position it had always enjoyed in art. Certainly it was pushing its way in art, but it laboured under very great disadvantages, as was alluded to in the report. There was no doubt the department was lodged in a manner which by no means reflected credit on the city of Cork. However it was not for him to indulge in any censure of the want of spirit of the inhabitants of the city. He regretted at the same time to have to say that they were a city of great conceptions and of very little performance. He felt sorry to be coerced to say this, but the subject of this department had been treated like every other project brought forward in relation to the advancement of the city. He hoped, however, that there would be an improvement in this respect, and that those who succeeded him would be more fortunate than he had been.

Mr. Beale moved the adoption of the report. He had made it his study to watch the proceedings at the school, and it gave him the utmost pleasure to find that the institute was progressing most favourably, and he hoped it would ever continue to do so.

The report was unanimously adopted.

The proceedings having concluded, the visitors proceeded to the schools to inspect the works of the students which were on exhibition.

COLLEGE FOR LADIES.

In City-road, London, there has been established for some time a primary college for ladies, and it now numbers 150 students. On the 20th ult. the annual distribution of prizes took place at the Cannon-street Hotel. Sir Charles Reed, chairman of the London School Board, presided, and there was a large assemblage of the pupils of the college and their friends. In opening the proceedings, the chairman said it was a matter for rejoicing that due regard was now being paid to the primary and secondary education of women. Forty years ago a college for girls would have been ridiculed. He did not know why, for he found that girls were as intelligent and capable of receiving instruction as boys. There were two fellow-students of his at school who were always taking prizes, not because they were more painstaking than he was, but they possessed memory and nerve, which he did not, and those carried them successfully through the examinations. He mentioned this with a view to the encouragement of those who had not gained any of the prizes which were about to be distributed. Many of them doubtless deserved rewards for painstaking and conscientious work who had not obtained prizes, and those qualities deserved reward as much as any other. He paid a tribute to the merits of the instruction given by the principal of the college (Miss Berridge), and stated that the class to which they belonged was fast rising in public estimation. The distribution of the prizes, which were numerous, and consisted of valuable editions of standard books, was then made.

HANDICRAFT AND HANDICRAFT TOOLS.

HAMMERS.

(Continued from page 346.)

It is hardly possible to draw a distinction between a tool and a machine; the former is more simple than the latter. They so merge each into the other that it is difficult to say where the one ends and the other begins. A lathe, for example, is a handicraft tool, and yet in its ramifications and developments it becomes a very complicated machine. As a machine, we are not concerned with it; as a tool, it might legitimately be classed in this course of lectures. It was, however, one of the earliest to be erased from the first list; now, however, it has for associates a goodly number of tools in far more general use than itself, which one by one have been set aside. It may be asked, What is a tool? How is it defined? Questions not easily answered. For our present purpose it will suffice to state that an implement by which the power of man is enabled to change the physical forms of materials is a tool. If to this implement there be added appendages, which either extend its range or vary its mode of application, these appendages are "contrivances." There may, however, be contrivances not connected with tools as now defined, and then they are elevated to the dignity of tools. For example, a chisel or a hammer is a tool; the boxing with which the former is surrounded, as in a plane, and the handle attached to the latter, are contrivances, for by them the modes of application of a chisel and the powers of a hammer are extended and varied. A vice, a soldering-bit, a nail, a square, are not tools, but "contrivances" only.

Viewed thus, it may be said that by means of tools and contrivances man is enabled to increase and vary human power, to economise human time, and to convert substances apparently the most common and worthless into valuable and useful products. Without tools the hand would be nearly powerless; add to it a hammer and a cutting instrument, and its capacity is increased many fold. Whoever contrived rollers as a means for moving heavy blocks of stone added a contrivance which very largely extended the powers of men. Whoever first applied grease to bearings and surfaces enabled man to utilise a much larger portion of his power. Whoever first, in truly geological pre-historic times, made an eye and a point in and on a strip of bone or shell, gave to man as a tool an invention far exceeding in importance and value anything yet accomplished by heat or electricity. Whoever in these same times applied a barb to a spear and a hook, introduced a contrivance of very high and inestimable importance.

The most ancient of tools is the hammer. In all parts of the world and amongst all people hammers may be found in use. So general are they that even the name "hammer" seems to have a pre-historic origin, for etymologists tell us that the word "hammer" is common to all the northern languages.

A tool more simple and more useful than the primitive or handicraft hammer cannot be found. Yet it has been so little esteemed during the countless ages since the first was made that, so far as your lecturer's researches have penetrated, the hammer does not possess any literature. This may be illustrated by reference to the Encyclopædias, e.g., "The Penny Cyclopædia" in its thirty volumes, and the "Edinburgh Encyclopædia," do not contain in alphabetical order the word hammer. The "Encyclopædia Metropolitana" and the "London Cyclopædia" dwell upon the word hammer chiefly in its figurative sense, "Rees' Cyclopædia" has hammer "an instrument of iron with a handle of wood, used in most mechanic arts to beat, stretch, drive, &c." The "Encyclopædia Britannica" and the "Oxford Cyclopædia" use terms similar to those employed in Rees. "The English Cyclopædia" speaks thus respectfully of this most primitive, ancient, and universal tool—

"HAMMER.—It will not be necessary to notice the hammer as a mere tool, but its importance as a machine renders a description necessary."

More recently, and in a book specially devoted to the tools and contrivances used by artisans, and which volume has both a table of contents and a comprehensive index, the hammer is not even named in these. Like the scaffolding of a building, the simple hammer seems always to be cast aside, and the writers of the articles in the "Encyclopædia" have correctly interpreted the universal treatment. The machine contrivances worked by other than human power, and to which they attach importance, are those with which this course of lectures is not to be concerned.

Before considering such views as may have suggested many of the various materials and forms of hammers now in use, it will be well to regard the hammer in, and of, and by itself. We are so apt to look upon it as a rude implement, necessarily associated with a superior class of finishing tools, that the materials, forms, and scientific principles involved in its construction and use, not only as an adjunct to other tools, but as a sole, independent, and final tool, are much overlooked.

In some handicrafts—and those, too, involving a high class of finished work—the hammer is the only tool employed. That great artistic skill in the use of the hammer, as a finishing tool, can be acquired is manifest from the beautiful illustrations of *répoussé* work now on the table. These, which have been kindly lent by Messrs. Elkington, are electro-deposits from hammered work, executed by a person now in their employ. The details of the ornamentations are not only minute, but they so harmonise as to give elegance and expression to the whole, exclusive of the form of the vessels on which this hammered work is effected. The variety of shape is mainly accomplished by changes in the form of the "pane" of the hammer, and in the weight of it. These changes of "pane" are sometimes effected by separating the pane from the hammers, and then the separated piece is called a "punch." Thus contrived, the same hammer-head may be said to have many panes; as in some of our pocket-cases, one handle has many instruments adapted to it. [The pieces exhibited were large salvers, with embossed paneling. On these embossed compartments there were various details of ornamentation. One was a rose-water dish of German silver (gilt and plated), the result entirely of hammered work so far as the ornamentation is concerned. The other two were salvers, or dishes, the results of electro deposits upon copper moulds, the moulds having been formed chiefly by hammering, part of which hammering had been afterwards chased with steel tools.] There are also here a number of unfinished specimens of hammered work, kindly sent by Messrs. Hardman, of Birmingham, and Messrs. Hart, Son, and Peard, of London. The forms are illustrative not only of the adaptability of hammers for accomplishing many useful works, but of the malleability of the metals brought under their blows.

But we should be ignoring the skill of those who have gone before us if we allowed ourselves to dwell exclusively upon the work done by hammers as finishing tools in modern days. As the hammer was in all probability the first formed of handicraft tools, so it was with equal probability the first tool used for the formation and ornamentation of articles which, whilst still intended for use, were also regarded as worthy of ornamentation.

It may, perhaps, appear somewhat out of place to refer to the shield of Achilles, so fully described in the *Iliad* of Homer, book 18, in the last 150 lines.* But if anyone can appreciate the value of a hammer, as an independent tool, then he will read either the original description of the metalwork on this shield in the language of Homer himself, or, failing in ability to do that, he will be amply

repaid by a thoughtful perusal of the translation, given by either of our late Premiers, Lord Derby or Mr. Gladstone.

Homer flourished about 960 B.C. (i.e., 960 + 1875), 2,835 years ago, and although the shield to which allusion is now being made may not have been actually fashioned, nevertheless the description is of that which a hammer was poetically supposed capable of accomplishing. Indeed, the forge in Homer's day is described as not inferior to some of those at our large armour-plate and "Woolwich Infant" manufactories.

The late Earl of Derby gives us as Homer's description of the forge at which Vulcan wrought:—

"The bellows then directing to the fire,
He bade them work; thro' twenty pipes at once
Forthwith they pour'd their diverse-temper'd blasts;
Now briskly seconding his eager haste,
Now at his will, and as the work required.

Then on its stand his weighty anvil placed;
And with one hand the hammer's ponderous weight
He wielded, while the other grasp'd the tongs.
And first a shield he fashioned, vast and strong,
With rich adornment
Of five folds the shield was form'd;
And on its surface many a rare design
Of curious art his practis'd skill had wrought."

Book 18, line 528, &c.

The account of the shield itself is too long, but Mr. Gladstone has condensed (as a table of contents) the incidents embossed upon it by hammering and inlaying. These incidents, it will be observed, are very unlike the "various shields" in the hosts of Satan, for the latter were "with boastful arguments portrayed" (Milton's "Paradise Lost," Book 6, line 84).

The scenes wrought upon the shield of Achilles are—1. The earth, sea, and heavenly bodies. 2. In a city at peace there are—(a) Marriage festivities; (b) A judicial suit or trial. 3. In a city at war there are—(a) A scene before the ramparts; (b) An ambush and surprise; (c) A bloody fight. 4. The ploughing of a field. 5. The harvest and the meal in preparation. 6. The vintage, with music and a march. 7. A herd of cattle attacked by lions. 8. Sheep at pasture and their folds. 9. The dance. 10. The great ocean river encompassing the whole, as, in the mind of Homer, it encompassed the earth.

Mr. Gladstone remarks:—"Never was outward fact so glorified by the muse. Nowhere in poetry is there such an accumulation of incidents without crowding. Of the twelve pictures on the shield, almost everyone contains a narrative." All this is described as the result of hammer-work.

Although hammers and hammer-work have been in past ages thus highly esteemed, yet whilst hitherto, in modern times, literature has disregarded the tool pure and simple, the wealthiest in the land pay very marked respect and honour to the tool itself. The diamond within gives to the casket its worth, and the value of a gem may often be inferred from the setting in which it is placed. Judged by this standard, the hammer holds a patriarchal pre-eminence amongst tools—a pre-eminence to which its antiquity and usefulness fully entitle it. Not royalty alone, but all who derive their authority either from royalty or wealth, and who adopt an English view, that honour is shown by excessive display and paraphernalia, cover with valuable cloth the box containing the hammer to be used in case their carriage meets with an accident. The sides of this cloth which covers the hammer, and the doors of the carriage which enclose the owner, are alike emblazoned with heraldic arms. Is it from deferential respect to this most ancient of tools that on the hammer-cloth is often a more expensive emblazonment than on the doors of the carriage?

For examples of the use of hammers in the production of works of great variety and extent on a large scale, see the ancient ham-

* The expression must be limited to the intensity of the blast, although it reads as if Homer was as familiar with "hot-blast" as we are; perhaps he may have been.

† It would not have accorded with the acknowledged power of Vulcan to have represented him as needing the help of a sledge-hammer man.

‡ See *Contemporary Review*, 1878-79, p. 329.

• See Lord Derby's *Iliad*, book 18, line 528, &c.

mered wrought-iron gates, hinges, panels in the architectural room in the Museum at South Kensington, or (only of a different character, but still hammered work) the gates recently erected near the courts in Lincoln's-inn, also the various suites of mail and chain armour in the Tower of London, also the iron panels on the table, especially the beautiful iron spray formed out of the solid, without either welding or brazing; also the raising and embossing of metals to which your attention has already been directed; the formation of gold leaf, the springs of carriages, and the stiffening of saw-plates.

The nature of the work to be done by hammers calls for very great differences, not only in the form, material, and weight of the hammer-head, but also in the appendages to these. There are the material and form of the handles, the angle at which these handles should intersect the axial line of the hammer head, the position of the centre of gravity with respect to the intersection of this axial line, the length and elasticity of the handle. If the centre of gravity is not in the central line or longitudinal axis of the hammer-head, then there is a tendency to bring the hammer down on the edge of the face and not on the face. If this defective construction were great, the muscles of the wrist may not be strong enough to counteract the tendency. If the defective construction is slight, then the work is often marked with angular indentations. Arrangements, too, may be required for modifying the intensity of the blow, whilst retaining the effects resulting from a heavy hammer where a light one would be inefficient.

(To be continued.)

"ON THINGS IN GENERAL."*

In 1867 I ventured to state the last development of domestic Gothic architecture as follows:—After noticing the prevalence of notchings, chamfers, and straight-sided arches, I remarked that "the last invention is to use large sash-windows, with the maximum of glass and the minimum of wood; then to put in a flat stone lintel, and over that a pointed arch, filled in with brickwork. Now a window-opening demands cutting up, if the scale of the building is to be preserved, and, as far as I am able to judge, nothing is more destructive to the general effect of our modern buildings than these enormous sheets of plate-glass in the windows." Since the above observations were made we have been blest with what is called the "Queen Anne" style. The receipt for this invention is simply to take an ordinary red-brick house, and to put as many gables, dormers, and bow-windows as possible; in fact, to cut up the outlines—the great object being to get the picturesque by any and every means. The windows should be long and narrow, and filled with lead glazing, or with small frames divided by straight bars painted white. One professor of the style (if not the inventor) used to put in some twelfth-century feature, such as a very severe pointed arch, like those found in the South of France. This may have been done for conscience' sake, but it is only fair to observe that the other professors, who are, for the most part, deserters from the Gothic camp, keep very clear of any such eccentricity. The ornamental parts consist of a few scrolls in the brickwork, and coarse woodwork, occasionally verging on the Jacobean, dull green and white being used for the interior painting. It cannot be denied that there are sundry advantages connected with this arrangement, which fully account for so many good men throwing over their own style and adopting it. In the first place, there is the picturesque outline, which, by the way, has but little to do with the real "Queen Anne" style. In the second place, the small panes of glass and the thick bars supply in some part the use of tracery, and give scale to the building. In the third place it

saves a very great deal of trouble,—the mouldings, such as they are, are those in common use; and above all, the style, if so it can be called, is fashionable. It has been said, with great truth, that the real restorer of Mediæval art was Sir Walter Scott, who made it popular by means of his writings. In the same way, Thackeray, by means of his writings, has made Queen Anne's style popular; whether it will continue so is quite another question. The Mediæval architecture was a perfect system; it had its own development, and was surrounded by all the subsidiary arts. On the contrary, in Queen Anne's time we were at the very dregs of the *Renaissance*; our domestic architecture was imported from Holland, and our ecclesiastical from France. There is a well-known letter of no less a person than Sir C. Wren, in which he describes himself being at Paris and going about the print-shops to pick up grotesques with a view to the ornamentation of St. Paul's. I have carefully looked over the plates in the architectural journals, and I find, as far as regards those buildings in which a certain amount of money is available, very good and fair architecture; in fact, there is a decided improvement upon what was to be seen eight years ago. It is true that, occasionally, the architect appears to be under the influence of what is called "the picturesque," and we find designs for houses which are to be built in various materials, where strict logic would demand that a single one should be carried through the building; and even, occasionally, different epochs mixed together so as to give the idea of the edifice being built at various dates; still, it must be confessed that for the most part they are artistically combined, the bad designs being in a very considerable minority. It should be observed that these illustrations demonstrate the sort of work that is going on all about, both in London and the provinces, and are not merely the works of our most eminent architects; for since the invention of photolithography, a drawing fairly etched, and which can be copied right off, has a far better chance of being published than the best water-colour, which entails the necessity, and consequently the expense, of being in the first instance translated into black and white. . . .

I now come to my second topic, viz., that of the Institute. I can well remember in my younger days how the Institute was considered as a sort of Sleepy Hollow, especially in the possession of the followers of what was termed "Classic" architecture. So much was this the case that it was seriously debated at a meeting of the Mediævalists, whether they should form a new society or join the old one; but inasmuch as the old society was well established, and had charter, funds, and an organisation, it was finally determined, and I think very wisely, to join it. I can only say that we were exceedingly well received, and in due time had our fair share of the government, i.e., we were put on the council and committees. Between that time and the present many good results have followed. Thus there has been a scale of fees, which, unfortunately, has been often misunderstood. It simply proclaims that the ordinary scale is five per cent., but there is nothing, I conceive, to prevent the architect making his own bargain with the client for more or less before the work begins (I have heard the Institute called a "trade-union," because it insists on five per cent., but it does not.) I presume the five per cent. applies in case nothing is said beforehand either on the architect's or client's part. Some years ago, before the division of labour began to obtain in the profession, an architect was supposed to be everything and do everything; thus one day he might do a warehouse, where the same day was repeated several times, and the next day he might have to design a church. The good pay of the warehouse was supposed to reimburse him for the bad pay of the church. Now that we have one class of men who design warehouses, and another who do churches, it is evident that the same rule should not apply

to both. Another production of the Institute is the "Agreement." This, among architects and their lawyers, is generally considered as a little too favourable to the builders, but I believe it works very fairly, and, above all, contains the clause about written extras. The library has been considerably enlarged, but would well bear further extension. There is also the Architectural Examination, which would undoubtedly be very useful were it a question of granting a diploma, but as it leads to nothing it is not particularly useful, except to enable gentlemen to test the amount of knowledge they may have acquired in a certain time. Of late, I understand sundry propositions, more or less unofficial, have been made to induce the Association to join the Institute. I confess, for my part, I hardly see the expediency of it. With or without determining whether the Institute is, as some of its members affirm, a non-educational body, there can be no doubt but that the Association is most decidedly an educational body. No pupil can expect to get on in his profession who does not work beyond his office duties, and the Association is exactly the institution which helps him to do so. Hitherto, you have been quite equal to the management of your own affairs, and I should venture to recommend you to continue in the same path. I decidedly think that, like the Legislature, the profession should have its two houses, where the lower should be a preparation for the upper. But if it be not desirable for the Association to join the Institute, on the other hand there can be but little doubt of the usefulness of being affiliated to it. There are many advantages in this course. By negotiating, your members could have access to the library during the evenings. Now, the Institute Library is a very good one indeed, and contains many books which could only come within the students' reach at the British Museum or at South Kensington. . . . As regards a loan library, you have a very good one of your own, which will doubtless augment every day. Another advantage the Institute offers is the Soane Medallion, also the Pugin Studentship. . . . My own view, therefore, would be to strengthen the Institute in every manner. If possible, I would have all the other architectural societies and exhibitions collected under the same roof. Thus I would have the Architectural Museum; also a more or less permanent exhibition of working architectural drawings (the pretty perspectives going as usual to Burlington House); also an exhibition of ordinary building materials, another of models, and a third of new inventions; in fact, there should always be some exhibition—free if possible—on hand. This is, I am afraid, but a dream, and yet one not altogether impossible to realise. But there are other things which the Institute is perfectly able to do without incurring any such expense as the foregoing scheme demands. Such would be a standing judicial committee, which might be paid by the litigants, and which would, in most cases, avoid law-suits. We also want many points of professional etiquette firmly established and put into print, such as the rule of calling upon another architect who has been employed previously by the same client, and ascertaining that he has closed his relations with the said client; also, whether it is "professional" to ask for work; and other points of the sort, which are generally understood, and not written.

My third point is the prospect of future progress. Now this progress refers both to the client and to the architect. As regards the client, why it is generally believed that the French or Italian client is a better judge of art than an English client? It is not because the latter is not so well learned in general matters as the former; on the contrary, much more care has, in nine cases out of ten, been taken with him. It is simply because the foreigner, being in the habit of seeing beautiful things around him in the streets, museums, and churches, has a better chance of educating his eye than the Englishman, who sees few works of art in his daily walks. All honour, therefore, to the late

* From paper by Mr. W. Burges. Read before the Architectural Association (London), December 17.

Mr. Slade, whose object, in founding the professorships at Oxford and Cambridge, was to get hold of the client in his youth, when, I fear, he is likely to receive impressions. These professorships are but as a brick out of a house; to effect his purpose there are wanted at each university not one professor, but twenty. A man ought to be allowed to take his degree in the arts as he does in law or medicine. As it is, the client hears a few eloquent discourses from the learned professor, and probably enters into public life with reminiscences of Turner and sundry ancient and modern painters as his only art-knowledge. Sir Digby Wyatt tried to teach the other arts, but how could he do it in a few lectures? Our client begins public life, and while in London lives in a house in one of the great roads in South Kensington, and which is exactly like his neighbour's. Perhaps he buys a few modern pictures to hang round the walls, or perhaps he tries to buy old ones and gets taken in. His country-house is an old or new Elizabethan edifice at the best, with very white plaster ceilings, and very black oak panelling; the only colouring he has the chance of seeing is when he goes occasionally to the theatre. The church he attends is equally without colour, except some glaring stained-glass windows, which had better be broken up. At the same time he probably reads the standard books on art, but they only give him some crude information which soon evaporates, because he sees nothing around him to keep it up. The best thing for him is to go in for archaeology; but even in that branch there is a lamentable deficiency in all classes of life. A short time ago there was a wonderful paragraph which went the round of all the papers, including the architectural ones, about a sword found in digging the foundations of the New Opera-house. According to the gentleman who supplied the first information, the handle was of gold, and the date of the fourteenth century, while the blade was of "the true Spanish temper." How the writer found out this latter peculiarity he did not stop to inform us, but we were told that the original was in the office of the architect, Mr. Fowler. Now all, or nearly all, the newspaper offices are within ten minutes' walk of Mr. Fowler's office, but none took the trouble to look for themselves, although the golden handle of a fourteenth-century sword could not fail to be a most wonderful and curious thing. When we consider the comparative rarity of gold at that time, and how accustomed our ancestors were to make precious metals still more precious by means of workmanship, we might expect to see something like King Arthur's sword, as described by Tennyson, or the wonderful sword in the Treasury at Cologne Cathedral. It turned out, however, to be a lansquenets' weapon, such as must have been manufactured by hundreds, and such as are to be seen in any number in the prints of Albert Dürer, Hans Burgmaier, and other artists of the beginning of the sixteenth century. I mention this one fact to show that archaeological ignorance is not confined to one class alone. I now come to the art architect. I have already stated that he cannot expect to learn his art simply during his articles of pupilage; it is absolutely necessary that he should educate himself and travel. As to his education, it is never finished. I do not speak simply of his art-education, such as learning the figure, but his book-education. If he wants to obtain judgment and taste, the figure and reading are almost the only means to that end. I do not mean to say that they will give brains to a man who has none, but they will enable the grain of mustard-seed to become a tree. The reading should consist of the greatest and best historical and imaginative authors, and every piece of knowledge should be acquired with regard to its bearing on his art. Another plea for reading is that he must be able to converse with his client, who is almost always up in this part of his education, and also in his travels. With regard to the students' travelling, I should recommend

staying long in one place, and mastering thoroughly one or two things; anybody with money can rush from town to town. Before going to work it is always advisable to give some considerable time in contemplating the object to be studied,—to ask one's self why was this done, and wherefore was that left undone. Sketching is of course useful, but the art-architect must learn his profession at the foot of the ladder, and take his time about what he does. Now with every respect to my friend Mr. Sharpe, for whom, I need not tell you, I have the very greatest regard, I do not see how the last two journeys—I was about to call them scrambles—could have benefited those who joined them. I read that there was an introductory lecture, very good indeed (like all Mr. Sharpe's lectures), and then every one was told off to measure a certain portion of a church or cathedral; whereas, to have done justice to the lecture, what was wanted was to have spent the day looking carefully round the buildings, making notes and observations on the previous lecture. If the student can possibly afford it, he should by all means go to Athens, and see Greek art *in situ*, for a knowledge of Greek art will be his sheet-anchor during his artistic life. He will be saved many an error in composition if he only asks himself, "What would a Greek have said to this?" I have one word to say about drawing. Doubtless it is a good thing to draw well, but do not imagine for an instant that fine drawing will ever supply the want of thought. Drawing, after all, is only a sort of writing; and in a letter it is not a question of how you write, but what you write. If you draw without thinking you will be obliged to rub out, and, somehow or other, a thing that has been much acquainted with the india-rubber seldom looks as well as one that has been put in at once after having been carefully considered. As far as I can judge, I venture to think that we are really progressing in art. Thanks again to Mr. Slade, a good figure-class is established in London, and it is your own fault if you do not make good use of it. It is to be hoped that, under Mr. Poynter's management, the Dyce outlines, and the system which employed them at the beginning of the course of study, will be abolished, for no book ever deterred so many people from learning to draw as this one. South Kensington is also making itself felt, for designers of the various trades, such as carvers, &c., can actually be got who can draw ornament very fairly. I do not believe that an average Englishman is more deficient in capacity than the average native of other countries of Europe; the latter, as I said before, has the inestimable advantage of having beautiful things around him; the obvious thing for us to do is to create beautiful things. You all have the power to do this,—not to a large extent, for that requires money; but if you cannot have many objects, you can have one or two or three, which you can create yourselves. Thus you can paint the walls of your studios, or illustrate your Tennyson. It all depends on yourselves, and the better you do these same things for yourselves, the better you are likely to work for your clients.

THE REAL GRAVE-DIGGERS IN DUBLIN.

THE discussion that resulted upon Mr. Dennehy's motion *in re* the Main Drainage clearly shows that all hope of usefulness on the part of our Corporation is at an end, while a clique of obstructives are allowed to disgrace local government in Dublin. Mr. Dennehy's motion to stop all salaries and contingent expenses in reference to the Main Drainage scheme was to the purpose, but this did not answer the drones in the Corporation who are paid for doing nothing, neither did it answer the "commission agents," who made previous hauls and were in expectation of making further ones, for managing jobs for lawyers, contractors, and others. With a

few exceptions, the composition of our Corporation is a disgrace to manhood and public spirit, and, as constituted for years, it is the worst enemy to the interests of this city. Only by the embodiment of a Main Drainage and Improvement Board apart from the Corporation, or by the Government taking the matter in their own hands can the urgent wants that Dublin stands in need of be supplied. Little or no improvements are taking place under the auspices of our Corporation as a body; it is an incubus upon our city, and it has proven itself an open foe in several matters to sanitary reform. It presses our citizens down by a heavy taxation, increasing year after year, and it affords no return but insult, incapacity, and neglect for the money it raises and wantonly squanders. It is invulnerable to shame, because its leading lights will stop at nothing to serve their own personal ends, and such attributes as practical patriotism and public spirit are exorcised from their vocabulary. In a word, our Corporation are the convicted murderers of our Public Health and the destroyers of the city's prosperity; and, true to their instincts, they are fulfilling the role of the Real Grave-diggers of Dublin.

THE UNVEILING OF THE GRAVES STATUE.

On Wednesday last, the memorial statue of the late Mr. S. R. Graves, who represented Liverpool, was unveiled in that town. Great local interest was manifested; the Home Secretary Mr. Cross, Mr. Rathborne, M.P., Mr. Torr, M.P., Lord Sandon, the Mayor, the High Sheriff, and others being present at the ceremony. The statue is placed in St. George's Hall; the artist is Signor Fontana, and the work is said to be an admirable likeness. The Home Secretary paid a tribute to the energy and usefulness of the public life of the late Mr. Graves, and Lord Sandon, in the course of his speech, alluded to the artist and his work in the following terms:—"The statue which had just been unveiled he had seen grow under the able sculptor's hands. He had seen the toil which had been bestowed upon that beautiful work of art by Mr. Fontana, by which they were able to recall to recollection the noble features and gallant bearing of their departed friend, and he trusted, when the people of Liverpool looked round at the statue, they would recollect all that Mr. Graves had done for the town he loved so well, and that they would not forget to bestow the well-earned meed of gratitude upon the hand of genius which had brought their friend so ably to recollection."

A MUNIFICENT PUBLIC GIFT.

WHEN will our Dublin papers be able to announce that our Corporation are moving in the matter of a free library, or that some of our wealthy "merchant princes" are about to aid the cause of education by a substantial gift? A Birmingham newspaper states that Sir Josiah Mason is about to make another very valuable gift to the new scientific college which he is now building in that town. When the foundation stone was laid in February last, it was understood that the mere building of the college would cost £100,000, and Sir Josiah also transferred to trustees, as an endowment for the college, the pile of buildings in which his monster pen manufacture had so long been conducted. This made a further addition of at least £20,000 or £30,000 to the munificent gift which he had previously made for the promotion of scientific education; and now Sir Josiah intends to hand over to the trustees the business itself, or rather the whole amount which he is to receive for the concern—some £100,000. Sir Josiah Mason has already built in Birmingham an orphanage and almshouses which cost about £250,000. How worthy of imitation!

CRYSTAL PALACE SCHOOL OF
ENGINEERING.

THIS educational department is now in its sixteenth session, and, under the direction of Mr. Shenton, it proceeds in a steady course of development. In the ladies' division of the school there are 21 professors and teachers, with an increase of students on the 500 of last session. From distant countries, and even from the colonies, these learners, we are informed, have come in such number as to warrant the belief that the foundation of a ladies' university suited to the needs of the nineteenth century has been laid at Sydenham. Since the disastrous fire, a check has been felt by the male section of the department; but the school of practical engineering has nearly its complement of pupils, the total being 60. A branch of this school, under the direction, as principal, of Mr. J. W. Wilson, C.E., will open this month. It is designed particularly for gentlemen who intend to proceed to the colonies or abroad as explorers or settlers; and the object is to afford them so much practical knowledge of scientific and mechanical work and expedients as shall enable them best to utilise the means with which they may have to deal, especially when entirely dependent on their own resources.

On Saturday, the 18th ult., prizes were distributed to the successful students in the engineering school, Mr. Francis Galton, M.A., F.R.S., presiding. Mr. Shenton having read the report of the examiners, and the awards having been made, Mr. Galton expressed the satisfaction he felt at the continued progress of the school. He pointed out that one of its incidental advantages was its teaching how to teach, that it was necessary that the hands should be taught as well as the head, and that mechanics should be more freely introduced into education than at present. A vote of thanks having been given to the examiners, Messrs. Anderson and Wilson, two civil engineers, those gentlemen bore flattering testimony to the practical character of the work of the school, and to the progress made by the students.

TASMANIAN TIMBER, AND ITS
APPLICATIONS.

In view of the Melbourne and Philadelphia Exhibitions, the Hobart Town *Mercury* of August 7th, in a special supplement, gives a large amount of information on native products. What relates to the timber of the colony is so particularly interesting and valuable that we place before our readers the main portion of it:—

The principal timber trees of Tasmania, such as blue gum, stringy bark, white gum, or gum-topped stringy bark, swamp gum, and peppermint tree, furnish a hard, close-grained, and strong timber, which is used in ship-building and house-building, and generally for all the purposes to which oak is applied in England. Huon pine is very durable, and is employed for boat-building, for which it is peculiarly adapted, and for house-fittings, &c. Blackwood makes excellent naves, and spokes, cask-staves, &c. Native myrtle is valuable for house-fittings. Swamp gum yields the finest palings and other split-stuff in the world. Sassafras affords timber for house-fittings, bench-screws, lasts, &c. Celery-topped pine is chiefly used for masts and ships' spars. The different kinds of timber in the following list are arranged according to their value. The diameter of the trees is measured at the height of 4 ft. from the ground.

BLUE GUM (*Eucalyptus Globulus*, Lab.).—The common name is derived from the bluish-grey colour of the young plants. Diameter, 5 ft. to 30 ft.; average of those felled for use, 6 ft. Height, 150 ft. to 350 ft. Specific gravity about .945 to 1.055. Abundant in the southern and south-western parts of the island. Cut for house-building, it sells at 8s. to 10s. per 100 superficial feet; for ship-building, at 12s. to 14s.

STRINGY BARK (*Eucalyptus obliqua*, Lher.).—Common name taken from the coarse fibrous bark. Diameter, 4 ft. to 24 ft.; average of those sawn, about 5½ ft. Height, 150 ft. to 300 ft. Specific gravity about .905. Abundant everywhere upon hilly ground. Price, the same as that of blue gum.

SWAMP GUM—WHITE GUM (*Eucalyptus viminalis*, Lab.).—Common names from its growing to perfection in humid situations, and from its gigantic white trunk. Diameter, 4 ft. to 18 ft.; average, about 5½ ft. Height, 150 ft. to 300 ft. Specific gravity about .885. Growing in forests with other kinds of *Eucalyptus*, in rather humid localities. A small variety called the manna tree grows abundantly about Hobart Town and in other places, on dry ground. Price, for general purposes, the same as that of blue gum; 5-ft. palings, 6s. to 8s. per 100.

GUM-TOPPED STRINGY BARK, sometimes called **WHITE GUM** (*Eucalyptus gigantea*, var.).—A tree resembling the blue gum in foliage, with rough bark similar to stringy bark towards the stem. It has been found recently that this wood possesses nearly all the properties of strength, solidity, and durability of the blue gum; whilst, being straight-grained, it is much easier to work. It is very abundant about D'Entrecasteaux Channel. Price, about the same as blue gum.

PEPPERMINT TREE (*Eucalyptus amygdalina*, Lab.).—Common name from the odour of the leaves. Diameter, 3 ft. to 8 ft.; average, about 4 ft. Height, 100 ft. to 150 ft. Specific gravity, about .895. The peppermint tree abounds throughout the island, on gravelly and other poor soil. Price, about the same as that of swamp gum.

HUON PINE (*Dacrydium Franklinii*, Hook, fl.).—So called because it was first discovered on the banks of the Huon River. Diameter, 3 ft. to 8 ft.; average, about 4½ ft. Height, 50 ft. to 120 ft. Specific gravity, about .650. Abundant in portions of the south-western part of the island. Price, about 16s. per 100 superficial feet, in the log.

BLACKWOOD (*Acacia melanoxylon*, Br.).—So called from the dark-brown colour of the mature wood, which becomes black when washed with lime-water. In moist, shaded localities the tree grows more rapidly, and the wood is of a much lighter colour. Hence this variety is called "Light-wood" (in Hobart Town), to distinguish it from the other. Diameter, 1½ ft. to 4 ft.; average, about 2½ ft. Height, 60 ft. to 130 ft. Specific gravity, about .835. Found throughout the island, but not abundantly in any one locality. Price, about 12s. to 14s. per 100 ft. superficial, in the log.

BEECH OR NATIVE MYRTLE (*Fagus Cunninghamii*, Hook.).—Common name from the fancied resemblance of its dark-green leaves to those of the myrtle. Diameter, 2 ft. to 9 ft.; average, about 3½ ft. Height, 60 ft. to 180 ft. Specific gravity, about .795. The native myrtle exists in great abundance throughout the western half of the island, growing in forests to a great size, in humid situations. Price, about 16s. per 100 ft. superficial, in the log.

CELERY-TOPPED PINE (*Phyllocladus rhomboidalis*, Rich.).—So called from the fancied similarity in form of the upper parts of the branchlets to celery. Diameter, 1½ ft. to 2 ft.; average, about 1½ ft. Height, 60 ft. to 150 ft. Specific gravity, about .655. Rather common in damp forests in the southern parts of the island, and in some sub-Alpine localities.

ORNAMENTAL WOODS.

The different kinds of wood included in the following list are all in constant use for cabinet and fancy work. They are arranged according to their value. The finest specimens of native myrtle, musk-wood, huon pine, and blackwood, exhibit qualities of the highest excellence, both in tint and variety of venation.

BEECH OR NATIVE MYRTLE (*Fagus Cunninghamii*, Hook.).

MUSK-WOOD (*Olearea argophylla*, F. Mueller).—Named from the musky odour of the plant. Diameter, 6 in. to 15 in.—the butt enlarging towards the ground to 1½ ft., and even 2½ ft. Height, 15 ft. to 30 ft. Specific gravity, about .685. Abundant throughout the island, in damp localities.

HUON PINE (*Dacrydium Franklinii*, Hook, fl.).

BLACK-WOOD (*Acacia melanoxylon*, Br.).

SHE-OAK (*Casuarina quadrivalvis*, Lab.).—A portion of the common name is evidently derived from the resemblance of the markings of those of oak. Diameter, 1 ft. to 1½ ft. Height, 20 ft. to 30 ft. Specific gravity, about .845. Very common on dry stony hill, excepting in the north-western districts.

HE-OAK (*Casuarina suberosa*, Otto.).—Diameter, 9 in. to 15 in. Height, 20 ft. to 25 ft. Specific gravity, about .855. Common on stony hills.

HONEY-SUCKLE TREE (*Banksia Australis*, Br.).—Named from the large quantity of honey in the flowers. Diameter, 1½ ft. to 2½ ft. Height, 20 ft. to 40 ft. Specific gravity, about .645. Abundant on sandy soil.

DOGWOOD (*Bedfordia salicina*, D.C.).—Diameter, 6 in. to 16 in. Height, 15 ft. to 25 ft. Specific

gravity, about .985. Common of small size, but rare of large proportions.

NATIVE LAUREL (*Anopterus glandulosus*, Lab.).—So named from its laurel-like leaves. Diameter, 6 in. to 10 in. Height, 15 ft. to 22 ft. Specific gravity, about .675. Tolerably abundant in some sub-Alpine localities.

BLUE GUM (*Eucalyptus globulus*, Lab.).—Curly-grained variety.

PEPPERMINT (*Eucalyptus amygdalina*, Lab.).—Some specimens of this timber have a very fine wavy marking.

USEFUL WOODS.

SILVER WATTLE (*Acacia dealbata*, Lindl.).—So called from the whiteness of trunk, and the silvery green of the foliage. Used for cask-staves and trenails. Diameter, 1½ ft. to 2½ ft. Height, 60 ft. to 126 ft. Specific gravity, about .965. Very common.

IRON WOOD, Tasmanian (*Notelaea ligustrina*, Vent.).—An exceedingly hard close-grained wood, used for mallets, sheaves of blocks, turnery, &c. Diameter, 9 in. to 18 in. Height, 20 ft. to 35 ft. Specific gravity, about .965. Not uncommon.

SWAMP TEA-TREE (*Melaleuca ericifolia*, Sm.).—So called, probably, because the leaves of an allied plant (*Leptospermum lauigerum*, Sm.) with similar bark, are said to have been used as a substitute for tea. Diameter, 9 in. to 20 in. Height, 20 ft. to 60 ft. Specific gravity, about .824. Used for turnery chiefly.

NATIVE CHERRY (*Exocarpus cupressiformis*, Lab.).—So named because the colour of the fruit is similar to that of a Kentish cherry. Diameter, 9 in. to 15 in. Height, 20 ft. to 30 ft. Specific gravity, about .785. Used for tool handles, spokes, gun-stocks, &c.

WHITE-WOOD (*Pittosporum bicolor*, Hook.).—Wood white. Diameter, 8 in. to 13 in. Height, 20 ft. to 35 ft. Specific gravity, about .875. Used in turnery. Probably fit for wood-engraving.

NATIVE BOX (*Bursaria spinosa*, Cav.).—The leaves are somewhat like those of the English box. Diameter, 8 in. to 12 in. Height, 15 ft. to 25 ft. Specific gravity, about .825. Used for turnery.

PINK-WOOD (*Beyeria viscosa*—*Croton viscosum*, Lab.).—Diameter, 6 in. to 10 in. Height, 15 ft. to 25 ft. Specific gravity, about .815. Used for sheaves of blocks, and for turnery.

NATIVE PEAR (*Hakea lissosperma*, Br.).—The woody seed-vessel is somewhat pear-shaped. Diameter, 8 in. to 12 in. Height, 29 ft. to 30 ft. Specific gravity, about .675. Fit for turnery.

SCENTED WOODS.

TONGA BEAN WOOD (*Alyxia burxifolia*, Br.).—The odour is similar to that of the tonga bean (*Dipteryx odorata*). A straggling sea-side shrub, 3 in. to 5 in. in diameter.

NATIVE BOX *Bursaria spinosa*, Cav.).—The scent is pleasant, but fleeting.

"JERRY" HOUSES.

At the Lambeth police-court a builder named Bowles was summoned by the district surveyor of Camberwell for not having solidly put together with mortar or cement the bricks in the walls of some houses at Peckham-rye. The surveyor defined what mortar is, and submitted specimens of the so-called mortar used in the walls, and urged that mould was mixed with the lime instead of sand. He was supported in his evidence by a builder of good reputation and large experience. Mr. Bowles, the builder, in reply to a question put to him by the magistrate, acknowledged the specimen submitted by the district surveyor was not mortar, but he stated it was not a fair sample of the materials used. Upon this the magistrate said he would send an officer to collect specimens from the walls, and adjourned the hearing of the case for a week. Upon resuming the case, on the 7th ult., the officer submitted pieces of the so-called mortar, and on comparing them with those submitted by the district surveyor the magistrate said he could not see there was any difference between them. The solicitor for the builder called a surveyor, who stated he considered the material in dispute was mortar; and the magistrate decided that, as there was such conflicting evidence, a surveyor should be engaged as an assessor to assist him in coming to a decision, and he named Mr. Lovejoy, of the firm of Drury and Lovejoy, to act in that capacity, and again adjourned the case. Mr. Lovejoy examined

the work, and attended the court on the 14th ult., and gave it as his opinion that the composition complained of by the district surveyor was not mortar. The magistrate therefore made an order for the builder to pull down the walls of the four houses.

QUEBEC IMPROVEMENTS.

On this subject the *Toronto Mail* of a recent date contains an article from which we glean that:—"Not long ago his Excellency [Lord Dufferin] obtained from Mr. Lynn, an eminent civil engineer of Belfast, plans for the embellishment of Quebec, embracing the prolongation of streets through walls, with new gates; the enlargement of the esplanade, and the formation of ornamental grounds outside of the walls, connected with the esplanade by a sallyport; a continuous line of promenade along the walls and outside of the citadel; and new city gates. The plans for these improvements were handed by Lord Dufferin to the Mayor of Quebec, and a report thereupon, with estimate of cost, was laid before the City Council. The estimated cost is about 90,000 dols., of which it is proposed that the City Corporation should pay one-third and the Dominion Government two-thirds. The Quebec people are naturally enthusiastic over the proposal, the report made to the council saying that the extension of Durham-terrace would form one of the grandest promenades in America, situated, as the terrace is, at an elevation of 180 ft. above the river, and offering an uninterrupted walk of a quarter of a mile in extent, and a view of the St. Lawrence as far as Cape Rouge. But this is not all that his Excellency proposes. He would have erected on the crest of the cliff, and within the citadel, 360 ft. above the water, a magnificent 'Chateau St. Louis,' to be a residence for the Queen's representative in Canada, the estimated cost of which is 100,000 dols. Here the Governor-General would reside in the summer months, and his presence during part of every year would, it is considered, go far to revive old historical associations, and to make Quebec a place of fashionable resort. The design, also by Mr. Lynn, for this 'Castle of St. Louis,' shows a frontage of 200 ft., with a depth partly of 60 and partly of 100 ft., a basement, two main storeys, and attics, and two towers of different heights. As a whole, it is described as an agreeable *melange* of the picturesque Norman and the Elizabethan styles. Such a building, perched on the cliff at 360 ft. in height above the water, would be a most imposing object to the view, and, with the viceregal flag floating from its lofty towers, would do more than merely please the eye. If there be 'sermons in stones' at all, this proposed structure would preach British connection and the reach of Imperial power more effectually than the most eloquent language could do. It would be, as a contemporary says, a Dominion work, built upon Dominion property, and for Dominion purposes."

COUNTY COURT HOUSE, MARYBOROUGH.

THE following appeared in a recent issue of the *Leinster Express*. We have to congratulate all parties concerned; the improvement of the building was much needed:—

"The alterations which have been in progress in the interior of the County Court-house at Maryborough have just been completed, considerably before the time specified in the contract. From time to time during many years past large sums of money were expended with a view of rendering the building suitable for the proper administration of justice there, but, unfortunately for the cess-payers of the county, without a satisfactory result. The representations of the present Lord Chief Justice of Ireland to the grand jury had the effect at last of inducing that body to present a sum of £2,000 towards entirely remodelling the building, and the tax-paying community will no doubt be pleased to learn that in this respect no further demand is likely to be made upon them for many years to come.

The plan on which the structure was originally laid made it an embarrassing task for any architect to work upon; but we feel bound to say that the eminent gentleman employed on this occasion (Mr. J. Watson [Rawson] Carroll, of 176 Great Brunswick-street, Dublin) overcame every difficulty, and the building as it at present stands reflects greatly on his professional ability. Mr. Carroll applied in his plans the lines, on a reduced scale, on which the Manchester Court-house was erected; and, as regards accommodation, convenience, and ventilation, there is scarcely anything to be desired. The utmost attention has been given to exclude the cold draughts which made the courts at times anything but pleasant, while ventilation has been made as perfect as possible. The judges can reach their chambers without having to pass to them or the bench through crowded courts, and their chambers have been fitted up in a suitable manner. Barristers, solicitors, and the public have been duly attended to in the arrangements for their respective requirements, and, without going into the details of the work, we may say the courts are second to none other in the country.

"Messrs. J. W. Beckett and Co., 28 South King-street, were the contractors, and we have reason to know they have given the utmost satisfaction to the court-house committee. Mr. Thomas Thornton, 72 Mountjoy-street, Dublin, acted as foreman for the Messrs. Beckett, and all who have watched the progress of the works are aware that to Mr. Thornton's constant watchfulness and energy in the interest of his employers may be attributed the early and satisfactory termination of the contract."

THE PUBLIC HEALTH ACT OF 1875 PERTINENT QUERIES.

A "Sanitary Inspector" writes in reference to the defects of the Public Health Act in the matter of adulteration. There are other defects which we have pointed out, and will again:—

"Butter" is not the only article that should be included in Section 116 of this Act. Cheese, dripping, eggs, lard, and other matters that enter largely into the food or preparation of food for man, may be sold in any condition with impunity, so long as it is not added to or adulterated. I did hope the new act would have been more comprehensive. Not long since I called the attention of a dealer to the condition of some cheese he was offering for sale in a market—said cheese being quite putrid. I, however, was not very politely told to "mind my own business; he knew what he could sell, and what he could not." The act is certainly a great improvement upon the numerous and vague enactments now repealed, or amended and embodied in it, but still there are instances in which it could be added to or amended with advantage. Take, for instance, "infectious diseases." I am firmly of opinion that compulsory registration would greatly tend to check the spread of the same. Medical men and others, as a general rule, try to keep these matters as quiet as they can, and in the endeavour to maintain appearances the same as usual many acts are committed which endanger the health of other persons. The simple fact of the existence of the disease having to be registered would make persons more careful of their proceedings, and it would also give sanitary authorities a fair chance of doing their duty, whereas at present they have, so to speak, to grope in the dark. My first knowledge of the existence of infectious disease in many instances comes to me through the reports furnished by the district registrars to the medical officer of health (though these reports are not furnished in all districts). Upon visitation I often find several other cases, which would not have been known had it not been for the death. I, however, think some special mode of registration should be adopted which would prevent spreading the fact of the existence or locale of the disease beyond those to whom the knowledge is necessary, as it might be very injurious to a tradesman were it even reported to a number of his neighbours or patrons (sitting as members of the local authority) that infectious disease existed on his premises.

The "Sanitary Inspector" hints at the concealment of the existence of infectious diseases by medical men. That this happens cannot be denied in the case of well-to-do families. The family doctor is placed, perhaps, in a trying position, and he does not become the first informant. In the case of the poor, infectious diseases are soon found out, and orders for removal to the hospital is general when the cases reported are of a malignant type. The question too arises,

Do visiting doctors spread contagion? They visit many patients in the one day, and in the same suit of clothes. Will our contemporaries the *Lancet* and other medical journals, as also our co-labourer the *Sanitary Record*, answer this query which we again repeat—Do doctors spread contagion in the course of their practice?

SANITARY NOTES.

ABBEYLEIX.—The sanitary inspector reports that in the village of Ballacolla he found twenty-five houses unfit for habitation, some of them being roofless. Steps are being taken to reach the responsible parties for the neglect.

ATHY.—Post-office irregularities are complained of in this town; indeed the complaint is general.

MARYBOROUGH.—The gas supply of this town is not satisfactory. The commissioners say they are unfairly charged, and the ratepayers do not get fair value for their money. The sanitary acts are viewed as oppressive, and the local authorities are not disinclined to have a kick at public health legislation.

RATHDOWN.—At the weekly meeting of the guardians of this union, a letter was read from Mr. Andrews, C.E., relative to the drainage of the workhouse to the sea. The letter stated that revised plans had been deposited by the engineer with the board's solicitors, and that corrected working levels had been recently taken by him. The letter stated further that the sum originally estimated for carrying out the work, £1,000, would have been ample for its execution, but that owing to a threatened opposition on the part of a landowner, several hundred pounds would be added to the expenses. The chairman on this point suggested the advisability of striving for an amicable agreement with the landowner in question, and after some conversation, it was resolved that this suggestion should be acted upon. The clerk stated that it would not be necessary to make a provision in the present estimates for commencing the workhouse drainage, as a considerable balance was in hand. The plans and report of Mr. Andrews, the engineer, were then formally accepted by the board, and ordered to be carried out as soon as possible.

WICKLOW.—At the Presentment Sessions for the County of Wicklow a sum of £1,800 was voted for the purpose of adding a record court to the Court-house and for a general repair to the entire building. The plans have been prepared by Mr. J. H. Brett, County Surveyor. The main street of the town of Wicklow is to be flagged at a cost of £250.

HOME AND FOREIGN NOTES.

"LYNCH'S GATEWAY," GALWAY.—This specimen of ancient Irish architecture, situate in Abbey street, is to be transferred to the Square. It is at present in the possession of Mr. Kirwan, and that gentleman has consented to hand it over to the commissioners. It is a Doric doorway, with beautifully carved pillars on either side, surmounted by an oriel with transepts and mullions, and a slab bearing a lynx passant, argent.

BIRMINGHAM.—It is stated that a week's work in Birmingham comprises, among its various results, the fabrication of 14,000,000 pens, 6,000 bedsteads, 7,000 guns, 300,000,000 cut nails, 100,000,000 buttons, 1,000 saddles, 5,000,000 copper or bronze coins, 20,000 pairs of spectacles, 6 tons of papier mache wares, over £30,000 worth of jewellery, 4,000 miles of iron and steel wire, 10 tons of pins, 5 tons of hair pins and hooks and eyes, 130,000 gross of wood screws, 500 tons of nuts and screw bolts and spikes, 50 tons of wrought-iron hinges, 350 miles length of wax for vestas, 40 tons of refined metal, 40 tons of German silver, 1,000 dozen of fenders, 3,500 hellowes, 800 tons of brass and copper wares—these, with a multitude of other articles, being exported to almost all parts of the civilised world.

ALEXANDRA PALACE.—The report of the Alexandra Palace Company states that the balance-sheet for the year ending 31st October, 1875, shows a net profit on the six months' working of £23,024 18s. 4d. After deducting the interest paid on mortgage and debentures, and setting aside the amount required for the Art Union prizes, there remains a balance of £8,322 14s. 4d., which it is proposed to carry forward. The directors state that they have every reason to congratulate the shareholders upon the results of the first season's operations. The total number of visitors during the half year was 1,307,857.

The Irish Builder.

VOL. XVIII.—No. 386.

Social Aspects.



THE condition of the artisan classes of this city compared with that of twenty years since, shows considerable improvement. In connection with the building trades the improvement is the more marked, save in one particular—that there has been little improvement apparent in the dwellings of the very class of workmen that ought to evidence it the most. Every decade has shown an increase in wages, and a lightening of the burden of labour, if not in less hours in all places yet, through the application of machinery. If the workman is inclined to fulfil the duties that devolve upon him as an honest parent, greater facilities are now presented to him for the proper education of his children.

The building trades of this city and of other cities and towns in the island are not, we regret to say, availing themselves of the opportunities before them for advancing themselves. Building workmen, who thirty years ago would have received only 20s. per week, are now receiving nearly double that sum, yet they are, as a body, housed in the same wretched tenement houses, renting two rooms at most, in some instances only one. The cost of animal food is of course higher, but in many other domestic wants there has been a great reduction compared with that of a quarter of a century since; the Dublin artisan is more extravagant, even where drink is not his failing. Both his wife and himself, if he is a sober man, dress better, their children are better clad, and places of amusement, and Sunday recreation are more indulged in. Building employers pay their workmen their wages more promptly than they did some few short years ago. Five-and-twenty years ago it was quite common to see scores of workmen waiting in builders' yards up to eight and nine o'clock of a Saturday night, and even later before the last of them were paid, and that too in cases where the employer was not compelled to delay payment through want of money. This disgraceful system has, we hope, passed away for ever all over the kingdom.

With the bettering of the condition of workmen, we would expect to see a marked improvement in their manner of living; but so long as the dwellings of our workmen remain as of old, good wages is not an unmixed good. Workmen are prone to complain sometimes (thoughtlessly, we think) that they are no better off now than they were twenty years ago and upwards, when their wages was much lower. A moment's consideration would convince them of their error. In everything that conduces to their social welfare, workmen are better off, if they are just to themselves. Building operatives, as a body, do not work as hard as formerly, many of the processes relating to their work, of the heaviest kind, is executed by machines; the tools they use have not increased in price, and, if out of employment, there is every facility for travelling in search of work.

A very small number of our artisan classes have improved with the times, few having betaken themselves to the holding or renting of compact dwellings of their own. There will be very little hope for the elevation of our Dublin workmen so long as they are content to house themselves, as the majority of them do at present, in wretched tumble-down houses, ill-drained and ill-ventilated. The respectable artisan should be a respectable and independent citizen, exercising the functions of such, and taking an interest in what concerns his fellow-citizens. Among our journeyman operatives, or even foremen, in Dublin, we have but a small number of ratepayers, as from the manner they are housed they are not amenable to the rates. At the same time it may be safely asserted that a large body of our operatives at the present hour over the three kingdoms, are better able to pay rates and taxes than many struggling shopkeepers. The position of the workman cannot long continue in its present state—it must either improve or retrograde; he cannot demand a voice in public councils if he does not qualify himself as a citizen; and a workman with good wages, good health, and fairly educated, ought not to bury himself in the back slums of the city, and stifle all spirit of manliness out of his nature.

In the Parliament and in the Press, workmen now are represented, and everywhere they have willing friends, free parks, free libraries, museums, and other benefits are placed within their reach, and the cost of education for their children is but nominal. We would like to see these benefits enlarged instead of curtailed, but, looking a-head, we fear that there is some danger of a curtailment instead of an enlargement of benefits in future. It depends upon the conduct and bearing of workmen themselves whether the voice of the country will continue in their favour, or whether they will be allowed to fight their own battle. United, they could do this better; but they would need to move the social peg on a hole or two further, and qualify themselves for the new position. There is dignity in all forms of honest labour; labour creates all our wealth, and if fairly remunerated, as a matter of right workmen can have no further valid claim. Towards the toiler, however, there has been always a sympathy on the part of well-regulated minds, and this sympathy still continues, though it is not precisely of the same kind as was manifested towards workmen years ago. The days of special patronage are, we trust, gone for ever. Authors and artists once considered it necessary to seek for a patron under whom they issued their works to the world. The public, now, is the great patron that patronises all, and merit should be the only claim for support. Workmen, no more than others, save under exceptional circumstances, have no peculiar claims on the sympathy of the public. If the laws injuriously affect their interests, they are entitled to redress; if that redress does not come they are free to take any legal action their case may suggest for the accomplishment of their ends. Workmen are free to work or remain idle, but they are bound in law and equity to fulfil their contracts. They can "strike" for higher wages, but though they may succeed, owing to circumstances in gaining their demands, the fact does not prove that their claim is always founded in right. A "lock-out" is as great an evil as

a "strike;" under some circumstances it is a greater one, but as long as both are resorted to, employer and employed are prone to look upon each other as enemies.

Combination is lawful, but conspiracy on either side is both unlawful and unfair, and at best it is but an expedient resulting in little more than a temporary advantage. Perhaps there is nothing which has contributed so much to the introduction of machinery, in all branches of trade, as combinations of workmen, made for the purpose of enforcing a higher rate of wages. What have been the general results? The total extinction of some trades by the medium of manual labour, the splitting-up of other trades into several branches, and a great reduction of wages in others.

In the building trades, with the exception of almost extinguishing the trade of hand sawyer, machinery has not worked any great evil. During the early days of the application of wood-working machines, some workers have suffered in places, but large employers of building operatives have become still larger ones. House-building is more rife, and house rents are lower, but we cannot add houses in general are better built. There are, however, drawbacks to the extension of machinery, and in the building trade this is evidenced. There are fewer now of the old class of general workmen; the house-carpenter or joiner of old was a different mechanic from what his fellow-workman of to-day is, at least in our large cities and towns. The organisation of labour has reduced the good general hand to a workman smart at one or two kinds of work, and as a workshop hand he continues for years with little facilities for enlarging his experience.

We are not prepared to say that the new system is an improvement upon the old, as far as the abilities of the executive workman are concerned. Society may be reaping an advantage, but the individual workman, despite the spread of education, is not so skilled or well grounded in the various branches of his trade as his predecessor of a quarter of a century ago. Given more time for leisure, the workman ought to improve himself in general education as a compensation for what he is debarred from acquiring through the manipulation of his fingers through the altered circumstances of his craft. And let the workman always remember, that skill, though always requisite, is not sufficient to carry a workman honourably through life, if it be unaccompanied with good breeding or the other attributes that constitute the gentleman. All men cannot be rich men or skilled men, but all workmen can be thorough gentlemen. Horny fists, soiled hands, or rough-spun and dusty clothes, are but the externals, and such accompaniments are inseparable from many forms of hand-work and skilled labour.

The builders of the Pyramids, the sculptors of Greece, the architects of Rome, and the constructors of our Celtic Round Towers, were workmen and Art-workmen. They have each and all left examples in their respective arts for all times. The world will never grow ashamed of such workmen, and it should be the duty of those that exercise such crafts or any handicraft to ennoble the title by their actions.

THE ROYAL HISTORICAL AND ARCHAEOLOGICAL ASSOCIATION OF IRELAND.—The annual meeting of the association will be held on Wednesday, the 19th inst.

PERMANENT BUILDING SOCIETIES.

WHAT is a Building Society? and, again, What is a Permanent Building Society? Two or three years ago we discussed some bearings of the question, and we hoped by this time that one of the societies which we passed under notice would become what it proclaimed itself to be. The Irish Civil Service (Permanent) Building Society, according to its annual reports, appears to be a prosperous concern, but we have looked in vain to find its results in a building direction. It is simply, as far as we can see, a big loan fund society, but a *bona fide* Building Society it is not. Some, or several of its members, for aught we know, may be jobbing builders, and the society may be very useful to this class of men to enable them to borrow money for wages or materials. If such transactions take place, we have nothing to say just now against such an obliging system, but we contend that a loan fund that tacks on other duties, such as that performed by money lenders, appraisers and valuers, conveyancers, &c., without troubling itself whether its members build, or others wishing to join want to build—a society of this kind is neither a temporary nor permanent Building Society, in fact it is not a Building Society at all. At this hour of the day it is needless to tell the public what constitutes a Building Society, and for what purpose they were established. We wish no harm to the Irish Civil Service Society—it is doing good for some people, but if it ever intends to be a Building Society, we must say it seems to have forgotten the *raison d'être* which it should give for its existence.

THE ROYAL IRISH ACADEMY.

At a general meeting of the Academy, held on the 10th inst., Dr. STOKES, President, in the chair. Dr. Perceval Wright read a paper by Mr. Thomas Plunkett "On the Barrow of the Miracles, County Fermanagh." Mr. Plunkett forwarded to the Academy a curious stone which he had discovered in this Barrow. The stone was 2½ ft. in length by about 2 ft. broad, and there was an inscription which some people contended was intended to represent a cross. Mr. Plunkett's excavations were stopped by the farmer on whose land they were being conducted, as the latter attributed to them the loss of one of his cows and the illness of a member of his family.

Rev. Dr. Haughton, in moving that the paper be referred to Council for publication, said that this was the first of a series of papers that he had induced Mr. Plunkett to send to the Academy. He regarded it as proving that man lived and hunted in that part of the country at a time when the waters of Lough Erne were at least 200 ft. higher than at present.

Professor O'Mahony seconded the motion, although he did not agree with Professor Haughton as to the stone having necessarily been placed where it was by men's hands. It was probably a mere agglomeration produced by geological or glacial or fluvial influence. As to the inscription, if it meant anything it would probably take a long time, perhaps centuries, to make it out.

Dr. O'Donovan said that huge stones, raised upon others so as to form a roof, were not likely to have come into that position merely through natural agency.

Dr. Haughton said he had not examined this barrow, but he had every confidence in Mr. Plunkett's geological skill.

The motion was adopted.

A paper, by Dr. L. Studdert, was read, "On an examination of Dublin street surface-waters for the free and albumenoid ammonia contained in them, taking the Liffey water near Carlisle Bridge, at intervals, as the standard of comparison." In this paper Dr. Studdert stated that, during the session of 1874-5 of the Royal College of Science, some examinations were made there of well waters in the city of Dublin, and also of some river

waters. As a sequel to this analysis, and on the suggestion of Professor Galloway, he was induced to take a series of examinations of the free ammonia and of the albumenoid ammonia contained in stagnant waters of the streets of the city, taking as a standard of comparison the waters of the Liffey. The examinations were conducted in November and December last. Altogether twenty-nine of those street waters were examined. The samples dealt with were collected in his own presence, and the mud which remained in some of these pools was also examined for ammonia; and the ammonia obtained reached 2 parts in the 100, the mud having been dried at 212 deg. Fahrenheit. The river water was also collected during the same two months, from the following places, with the following results:—Eden-quay 0.0840 and 0.098; Aston's-quay, 0.0812 and 0.091; Burgh-quay, 0.1750 and 0.0875; Sir John Rogerson's-quay, 0.5250 and 0.035 grains of free ammonia and of albumenoid ammonia respectively. The method employed for determining the quantities of ammonia is that of Wanklyn and Chapman—a process almost universally allowed to be the best yet ascertained for obtaining accurate results. The average of free ammonia obtained from the four samples taken from the river was 0.0982, or less than one-tenth of a grain per gallon; and of albumenoid ammonia 0.779, or less than one-twelfth of a grain per gallon. The average of free ammonia obtained from the 29 street waters was 17 grains per gallon, being more than 170 times the average obtained from the river water. The average of albumenoid ammonia from the street waters was 3 grains per gallon, or 38 times the average of that obtained from the Liffey. From three out of the four river samples the quantity of free ammonia was under that yielded by any of the street waters, except that obtained at Stephen's-green East and South. The maximum from a river sample was that obtained from Burgh-quay—namely, 0.175, or less than one-fifth of a grain to the gallon. The maximum obtained from the street waters in Moss-street and Poolbeg-street was 105 grains, being exactly 600 times more than the river maximum. The least impure of the 29 street waters obtained contained three times more albumenoid ammonia than the most impure river water. The following are some of the further results of the analysis of the street waters:—Stephen-street, Lower, 12.6 and 5.8; Cross Kevin-street, 2.8 and 1.4; Patrick-street, 4.9 and 1.75; Townsend-street, 4.55 and 4.9; Lees-lane, 98 and 11; Sir John's-quay, 70 and 7; Moss-street, 105 and 10.5; Poolbeg-street, 105 and seven grains of free ammonia and albumenoid ammonia respectively. The surface water of Merrion-square South, being one of the best street waters, showed 0.28 of albumenoid ammonia, while the river average was 0.098. Taking into consideration the vapours which must arise from these stagnant waters, he thought it almost certain that they must take forms dangerous to health. His examinations of the street waters had shown that they were charged with saturated hydrogen and other offensive volatile substances. He would not seek to determine what might be the result, but without knowing the least about either the chemical or the germ theory of disease, even an unlearned man like himself might conclude that so much dirt might go far to account for the high death-rate of Dublin—33 per 1,000. Whatever was to be done with the sewage of Dublin—whether it was to be allowed to continue to defile the natural purity of our river, or to be used to improve the land, or only thrown away at great cost into the sea, it certainly appeared to him from the results now laid before the Academy, that better scavenging and a more level surface for our streets was urgently required.

Professor Baldwin asked how the water had been collected. He should also like an explanation of the difference between the amount of free ammonia found in the water taken from the different parts of the river; and, further, how it came that the largest

quantity of free ammonia was found where there was the smallest quantity of albumenoid ammonia.

Mr. Smith thought it a result to be anticipated, that the stagnant street waters would contain more ammonia than the surface water of the Liffey.

Dr. Frazier moved that the paper be referred to the council for publication.

Dr. Wilson seconded the motion.

Professor Galloway said that the waters had been collected at the middle of the day; they were never taken after a shower of rain. Dr. Studdert had referred to the probable evil effects of the exhalation from these stagnant waters. There was another in which they might prove dangerous; they might percolate through the soil, and thus be conveyed into houses, especially in winter, when they had fires in their houses. A Continental chemist had shown that this does take place. As to the difference between the proportion of free ammonia and albumenoid ammonia, that was the result of the difference of the stage at which decomposition had arrived.

Professor Baldwin, if he was in order, would move that the paper be referred back to the author for reconsideration. He thought that the facts as at present before them were of no value. They did not show from what the free ammonia arose in any particular place, whether it was the ammonia of coal, of shoddy, or of wood.

Dr. Studdert, in reply, gave the dates at which the water had been collected. The dates at which it was taken from the Liffey were Nov. 11, Nov. 29, Dec. 15, and Dec. 17, while those taken from the streets were at intervals of a few days during the two months. As to what had perplexed Professor Baldwin, and probably would perplex most of them, the disproportion of free ammonia and albumenoid ammonia, the amount of the former in the Liffey was smaller and of the latter larger than was found in the Thames at a similar test, so that in his case the quantities were much closer. There was no solid matter in the specimens analysed. In conclusion he said his paper was simply a record of facts, and it was for those who were responsible for the state of our streets either to account for them or to remove the cause.

Professor Baldwin withdrew his amendment, and the motion was adopted.

The paper of Dr. Studdert, and the discussion it gave rise to, although not conclusive on the issues raised, have a certain value. We would like to see a few more of such papers and such discussions conducted in an inquiring and tolerant spirit, the only object being the common-weal. It would well befit the Academy betimes if some of its philosophic minds, by way of relaxation, would pass from the buried past to the quickening present, and such a subject as sanitary science can never be out of place in such an institution as the Royal Irish Academy, remembering, of course, that the promulgation of "notions" and the ventilation of "pet projects" are not intended, but the elucidation of scientific truths.

STREET TRAFFIC REGULATIONS.

THE Municipal Council have had under consideration from day to day this week the regulations proposed by the Chief Commissioner of Police under the "Dublin Traffic Act, 1875." We are glad to have to record a numerous attendance of members of the council to discuss the various clauses proposed. We cordially agree with the words of a morning contemporary and hope that the Corporation will "use their own intelligence in arriving at a conclusion, and adopt, reject, or modify the rules as may be thought desirable, having regard to the rights of the public." We must hold over our views upon the subject.

WORKING DRAWINGS.*

I AM, indeed, very glad once again to have the honour of meeting you here. I fear, however, the subject of this paper is one not calculated to interest you as much as many others that I could have selected. It may appear, perhaps, a dry subject, still I am of opinion that it is one well worthy your best attention, not from anything new that I can say on the matter, but from its great and general importance; in fact I can say very little on this subject that is different from what I said when I had the honour to address you at the inauguration of your association. If we remember for a moment what is meant by "working drawings," and what is the duty they have to perform in our art, we shall, I think, come to the conclusion that the matter is deserving of our best attention. Working drawings, then, generally speaking, are the means by which our ideas can be realised in actual materials; they give our clients an idea of what we intend, and they convey to the contractor an explanation of the works to be done under the contract.

To acquire the knowledge to prepare in a creditable manner the necessary working drawings, there are many opportunities; first, you have the opportunity of seeing such in your principal's office, then you can visit the works in progress, access to which is very readily granted, and this, if properly carried out, I consider to be one of the best forms of education in this direction. You can see in the art and scientific journals the latest information to be had on these subjects. There is photography in all its branches, as well as all the other different forms of illustration, putting before you the choicest examples of ancient and modern work; and, though last not least, you have the sketching tour. This I consider a most important feature of your education. Sketching, combined with attention to the uses of the work before you, will greatly assist you. It will be well to confine your attention to a few objects at a time, not to attempt to do too much, or to make a great display in the way of sketches.

Take up a door or window or any other portion, and thoroughly measure it, and carefully sketch in the mouldings, marking the construction and jointing of the masonry. Then carefully study, and sketch the figure and sculpture, and never leave the object till you feel that you have made accurate drawings of the whole. This will, I believe, give you a better idea of what is necessary for a working drawing than almost any other form of study; it is also calculated to give you great confidence in your own efforts, as you need be at no loss for information on similar points while you have those studies by you. It is in contemplating these fine old ruins that we drink in those truths which they so beautifully express; there you may form your taste, learn to overcome difficulties of construction, get a knowledge of the treatment of your materials, and work out the uses and purposes of the building. It is a pursuit that is also most interesting, and one eminently calculated to arouse in you enthusiasm for your work.

I remember with pleasure my own experience in the studying and measuring of the Cathedral of St. Canice, in Kilkenny, and some other old buildings in Ireland, my notes of which I have the pleasure to lay before you this evening. You must, however, avoid making the preparation of the drawings your whole care, remembering the end of all drawings should be simply to help to realise the actual construction. It should be your anxiety in your general drawings to represent on paper, as simply and faithfully as possible, the appearance and effect which the work, when realised, will present. It is not necessary that this should be done in a very picturesque manner; but for myself I have no fear that,

if you draw well, and have thoroughly studied your design, you will ever fail to represent faithfully your ideas. If you have a thorough knowledge of your work, there is little fear that the design will become subservient to the drawing.

There is, I consider, little fear that you can become too much of draughtsmen if you remember that the primary object of drawing is simply to represent clearly the object of the design. You must ever keep before your minds that architecture creates a building, the exterior of which is merely the clothing of the interior arrangements, and, therefore, admits nothing that is unreal. Perspective is often most useful for this purpose, and, therefore, you should thoroughly understand it, and be able to draw it freely. To explain your ideas to the workman and artist who may be assisting you to carry out your design, it is absolutely necessary that your geometrical drawings should be clear and distinct, bold and truthful. A little extra time spent in this way at the beginning, and you need then have little fear that the work will be otherwise than as you had designed it. It will also, to a great extent, prevent the possibility of any difference arising between you and the contractor in the carrying out of the work; it is surely only simple justice that you give the contractor a full idea of what you intend before you ask him to send his estimate of the cost. This will, I believe, be productive of the greatest good feeling amongst all parties, clients, architects, and contractors, and you will then probably hear less of that most annoying subject—"extras." Kindly bear with me, then, for a few minutes while I give you my ideas on this subject. I have not attempted to write a long paper, my wish being rather to start a subject that may afford food for useful discussion, being, I confess, much more in favour of these useful discussions, as I am of opinion that the work of the association is to be done at the board or the desk, and in friendly discussion, such as I hope this to be, rather than in the reading of formal papers.

I may remark that it is absolutely necessary that you prepare for these discussions; you must read the best authors on the different subjects; you must be diligent if you would be an artist-architect, you must work perseveringly in the style or styles you may have adopted. Acquire, by all means, the poetry of the art, but do not forget the other matters within your province which are so necessary. Do not forget the practical, which by the real artist can be lighted up with beauty.

Working drawings should include every information that is necessary, taken with a full clear specification, for explaining to the contractor and to the workman the work to be done, and the proper way of carrying out such work in the best manner. It is not necessary, in my opinion, that they should be prepared in any regular or uniform manner—they may include the rough sketches given, perhaps, on the scaffolding to explain away some difficult point to the foreman, the ordinary detail drawings given with the general contract plans, the full size details or the marginal sketches given in your specifications,—these are all working drawings. In fact, everything that is necessary to explain your views as to the proper carrying out of the work is a working drawing. Sketches are oftentimes very useful for this purpose, for you will occasionally find that where an ordinary drawing fails to make itself understood, a perspective sketch seldom or never fails.

It will be well, however, to prepare in the first instance, in connection with the specification, a full set of plans, and I would recommend that for buildings for domestic purposes it consist of general plans, sections, and elevations, most carefully figured. The plans of foundation, of each floor, and of roof, both naked and slated, if at all an important building. In every case a slated roof plan should, in my opinion, be given, on which would be carefully noted the sizes and

positions of chimneys, gutters, &c. Sections of the different parts of the building should be given, shewing the different kinds of construction from the foundation to the roof and chimneys. I consider that no set of contract plans is complete without a section through every different portion of the building that calls for such. On the section the dimensions of the foundation, heights of the floors, windows, and roofs, should be carefully figured.

The elevations should consist of a geometrical representation of each exterior part of the building, no matter how unimportant to first appearance. This will be a great aid to you in arranging your construction; there will then be little fear of having large heavy piers over opens, without, perhaps, sufficient support for them.

Having prepared the general plans, it will then be necessary to prepare details, or large plans of the different portions of the work, beginning (say to a scale of 1 in. to 1 ft.) at the foundations, sections of which I would recommend to be given in all cases of large works—these sections to be very carefully figured as regards the widths and heights. Details of all windows, doors, open arches, roofs, chimneys, iron girders, and columns, should also be given. When this has been done, details should be prepared for the more decorative portions of the work—the floors, ceilings, cornices, and such like. These drawings should include all and every particular that, taken with a full clear specification, should leave nothing in doubt, and, putting yourselves into the place of the contractor, you should be able to feel that you had left nothing of importance in doubt. Then your next step must be to prepare for the contractor, during the progress of the works, the large or full-size drawings of the different parts of the work, such as stonework and woodwork; and I venture to say that, if the general plans and details are full and clear, there will be very little difficulty in these larger details, and at the conclusion no difference of opinion as to the value of the work they represent. I have the pleasure to lay before you a few sets of plans to explain my meaning—not at all, indeed, as models for your imitation, but rather to better explain my views, and to put before you what I consider necessary on this point.

In preparing plans for churches and other public edifices, the same general principles will apply; but probably, if the building happens to be an important one, a greater number of, and larger details will be necessary. The windows, arcades, and roofs will require to be described very fully, so that nothing that is necessary to the stability of the structure shall be omitted. In this case also I have put before you a set of plans, in which I have attempted to realise the views I have already put before you.

In preparing the details it will be well to make plans of every portion, and carefully figure all the widths and heights; the plans of the window should include—plan, exterior and interior elevations, and section, as well as full-size sections of the mouldings; the plan should show carefully the different materials used, the bonding being distinctly marked; the elevation should show the general features, the construction being distinctly marked, the sizes of the stones and other materials being clearly indicated, and the centres of all arches shown. The shewing of the sizes and jointing of the material is most important, as this has oftentimes a great deal to do with the appearance of the work; it may also have an influence on the value of the work, and therefore it should not be left in doubt. The interior elevations should clearly indicate the kind of sashes, shutters, skirtings, and trimmings; lintels should be shown, their thickness and bearings, and the discharging arches turned clear of them; then large details, say full-size, should be given of the different parts requiring such. In the eills or strings you should be careful to show the raised seats for the jambs, rebates, and weatherings for the frame; the moulds of your architraves and panels should

* By Mr. J. J. O'Callaghan. Read at ordinary general meeting of the Architectural Association of Ireland, 30th December, 1875.

be shown. The same general principles will apply to the windows of a church or other public building.

The details for the door should show the construction, sizes of stones or other material, the bonding steps, arches, and centres, as well as manner of securing the frame and other woodwork. It will be important to make plans or sketches of the different portions, and see that they realise your wishes; do not content yourself with the general elevations and sections. It very often happens that when we have depended on these, the result is quite different from what we had intended. Take a door or window (as on the accompanying sketches) with an attached or detached shaft: the geometrical elevation may look quite satisfactory, the cap appear to have legitimate work to do, to do it effectually, but yet, owing to the distribution of the work over it, or the kind of mouldings on the arch-mould, the result may be most unsatisfactory; the shaft, in fact, from different points of view appearing to have less to carry than it should, the line of the shaft oftentimes being outside the line of the archivolt at the springing. This great evil will be avoided if you thoroughly study your work. Make plans of each part and make rough perspectives of any points about which you are doubtful. In preparing your string courses you must carefully consider the question of damp—make every effort to prevent it; for this purpose it will be necessary to raise a seat on the stone, as well as give it a weathering: this will prevent the rain being driven in through the wall at the joint. It will be well to mark clearly the position and thickness of the damp course.

Then, in lead flats and parapets, you must clearly show the width and rolls on the lead, their flashings, their widths, and how connected. In barges also it will be necessary to show the manner of staunching them; lead flashings in every case should be used. Indeed I have come to the conclusion that it is necessary in our climate to use lead under all stone barges, copings, and parapets. In the case of stone gutters, I consider it almost impossible to make them successful without lead treated as in an ordinary gutter. Your inner doors should show the widths of the jambs clearly, the lintel with its discharging arch, and then the frame, door trimmings, saddles, and, where called for by the nature of the work, large details should be given.

In the case of important floors, I would recommend that a general naked plan should be given, on which would be marked the leading timbers, the beams or girders and trimmers, as also large sections of the different parts; and on this plan it will be well to indicate the different opens under.

In the matter of your roof you must be careful to give a general detail of it, showing the manner of the framing, joints, tenons, and straps and bolts, figuring carefully all the timbers, indicating the portions to be wrought and moulded, and describing on the drawing anything necessary. In addition, it will be well to give a large size drawing of the different parts that there may possibly be any doubt about.

In the stonework, it will be well to give general elevations and sections of the different parts, showing the beds, joints, and, in addition, full-size or half full-size sections. In the carved portions it will, I consider, be sufficient to indicate the stone blocked for the carver, but it will be well to give sketches indicating the kind of carving you wish.

The plans of the staircase, if stone, should give clearly the section of the step, how it is supported, the bearing in wall, and the manner of carrying the balusters. If in wood, the plans of steps and landings, the sections showing the number and kind of carriage pieces, the section of soffit, manner of putting the treads and risers together, the newel posts, hand-rails, and balusters; you should be careful to indicate the portions wrought.

Details of all decorative work, whether in wood or plaster, will be necessary; and I am strongly in favour of having these shown on

the working plans, as well as being generally described in the specification. It will be most important that you give full instructions for all the metal work required, giving details in all cases, on which the sizes of the columns and girders should be distinctly marked. Then, the works necessary for the plumbing, sizes and positions of cisterns and their bearers, should be carefully shown and figured; sizes of drains and cesspit marked on the plans; ventilation shewn and figured on plans and sections; the water supply carefully indicated, the depth and sizes of the well and force-pump, and the supply and other pipes necessary, fully shown and figured.

To conclude: You should have a thorough knowledge of construction and the uses of materials; you should also have a general knowledge of all the trades. This is absolutely necessary for the proper preparing of your working drawings. How can you possibly expect that workmen would understand your ideas, that are, perhaps, somewhat new and strange to them, unless you put these before them in a perfectly clear and intelligible form? Without this your client will not have that confidence in you which is necessary; while the builder, who is really anxious to have the benefit of your assistance, and to follow your plans, too often finds that, in matters within his own province, you are at fault, and thus your influence is weakened. Let this not exist, and the aid of the architect will be more generally sought, the public will feel that their interests were safe in his hands, they would feel that technical knowledge and artistic taste were employed in their behalf, it would place itself unreservedly in his hands, and thus the cause of art and the interests of his client served in the end.

CORRESPONDENCE.

AN ARCHITECT'S VIEW OF THE KENSINGTONIAN SCHOOL UNDER THE ROYAL DUBLIN SOCIETY.

TO THE EDITOR OF THE IRISH BUILDER.

SIR.—I note with pleasure a paragraph in your New Year's Day review commenting on my late address to the Architectural Association, which affords me an opportunity of reply to many comments which have reached me, much to my surprise, as I had little idea that any remarks of mine were worthy of so much attention as this address appears to have aroused.

I desire to say that your reviewer and some other critics appear either to have misunderstood me on one point, or that I have failed to convey myself as clearly as I would have wished. I did advise, or desired to advise architectural students to use the Royal Dublin Society, in the absence of any teaching available better suited to their special purpose.

Let me assure you the furthest thing from my desire is to make a mere ill-conditional 'attack' on that school. Myself an old student of another such school, with grateful memory of the first notions of Art and impulses kindled in it, my sympathies are all with the Art-work of the school; and I have a prejudiced tendency of kindly regard towards all such schools. But, sir, when there exists abroad, among those to whose opinion the Fine Arts Committee of the Royal Dublin Society might well accord some deference, a widespread distrust of the working of the school in some respects, he would be no friend to the system or the school who would not speak it out. Far better and more healthy for the school would be a little well-meant and candid criticism, and that, instead of the present arrangement of making things pleasant all round, the Fine Arts Committee should once and for all put a stopper to a system of inspired laudatory paragraphs in the Dublin Press, of such cut and dried phrase and such strong family likeness that, to be plain, few people believe in their independent or intelligent source. Let the committee encourage plain, if even adverse criti-

cism of the work of the schools, and let the public have a little less trumpet and horn-blowing of the 'remarkable success which has attended these schools,' and especially the trumpet of the ever present "indefatigable" head master, the great "efficient," with minor penny whistles for all the little co-"efficients."

Without entering at all on the question of the general good effected by these schools, I claim a perfect right, as a professional architect, and one who has had many years' experience of architectural teaching, to pronounce an opinion on the value of this school to architectural students. Nor do I lay down any *ipse dixit* of my own, but I speak on this subject with a very general consensus of those who have the right to instruct the managers of the school where their system is defective; and, I repeat it, it is a "delusion and snare, a mockery and a sham," for architectural students in many ways!

That I should not be guilty of any thoughtless injustice, I have paid a short visit to the last Exhibition of the students' works, and I have consulted the skilled opinion of all others I could meet competent to pronounce an opinion, and have endeavoured to form an independent opinion of my own on the school's work and this year's award of prizes, unbiassed by that of the tribunal of one competent artist diluted with an admixture of two amateur judges. This I say advisedly, for it is no disrespect to two of the gentlemen whose names have appeared in the papers as judges awarding prizes, to say that the fact of Mr. Chambre's being a trustee of the Taylor Bequest, and Mr. Henderson's being an architect, does not of necessity constitute them more than unskilled amateurs in nearly if not all the departments of work they were called on to judge. Mr. Thomas Farrell is a host in himself—a competent and able artist; but I venture to think the students who exhibit, say landscape and still-life painting, would have felt more comfortable confidence if a professional painter or even an amateur of some technical skill in color had been associated with the eminent sculptor.

Here then are a few criticisms on the late Exhibition, not mine solely, but to be met with abroad. First, this was an Exhibition of two years' work. Why of two years, and why was there no exhibition or award of prizes last year, are questions very generally asked. I venture to say that if this were the display of one year's work only, it would be for one year a very meagre and discouraging show indeed. I desire to criticise only what bears upon training for architects, and I look first for what the school has done in landscape painting for two years. Here the quantity is not so deficient as in former years, but the quality is unspeakably bad as a whole. There is scarcely one work which rises to decent mediocrity, and some are so wildly or outrageously bad, that it would be better for the credit of the school they had been spared exhibition. Here I can see little hope for the architect in the training he is most in want of in Dublin, if these are samples of what the school can do for him. I will forbear all criticism on the drawing of the figure from the life and antique, for I will discourage no architectural student from fully availing himself of every advantage the school can afford him in this respect; but I would counsel him when he goes to study the figure for an architect's training, to try and acquire a bolder and broader style of drawing than appears to be the fashion of the school, and to avoid the 'fiddling' and finishing-up, which appears to be regarded as of more importance than valuable time or truthful or good drawing.

I turn next to my old friends the shaded models, all of a row, "one so like other you can't tell 'tether from which," beautifully shaded and finished up, and, I trust, productive of payment by results, but, I repeat, for an architect, waste of valuable time;—and I will go farther and say, even vicious and demoralising to some extent. It appears to me, turning to the most approved of the shaded figure drawings, as if this ingenuity

of practice in representing round rollers, cubes, triangles, &c., led up to an insensibility of the student to variation of surface, and expression of muscle, as exemplified in some exquisitely shaded and rounded wooden legs and arms.

Next, looking for 'perspective,' I chance on my old friend the step-ladder and usual concomitants—a drawing as I take it, so familiar is it, from a stereotyped flat copy. I may well ask, Of what earthly use would it be to my pupil to be occupied in making a copy of this *diagram*, when I had demonstrated to him that lines parallel to the direction of vision vanish in one point, and those at angles with it in others? and who is benefited, or what further fact is demonstrated, by the melancholy waste of valuable time in drawing an innumerable spider's-web of converging dotted lines—I presume with that venerable and antiquated spur-like tool with a little 'rowel,' which I daresay still lingers among the drawing instruments of the Department of Science and Art, and which, if practical geometry were a general ante-diluvian accomplishment, may have been used by the sons of Noah in beguiling the long wet days in the Ark?

I look now for 'architecture,' and I can find but two or three drawings which for certainty of identification I may note as bearing the student's name, G. Carolin. I have no fault to find with the painstaking execution of these "drawings"; but, in the name of Architecture and Art, who is responsible for placing before a student, or permitting him to waste his time and do himself deplorable mischief, by copying such things? Feeble, scratchy, and antiquated specimens of plan-drawing, of a manner exploded and out of date twenty years' ago, and such as are only disinterred from old architects' stores of plans, to be laughed at as drawing as it was understood in the days of dear old Peter Nicholson. Two of the drawings are such as would be injurious in style of drawing; but one, which purports to convey a 'Gothic' design, is not only so, but so supremely absurd as a travesty of Gothic architecture, that it would be altogether a very good joke if one did not feel a regret for a probably earnest and industrious young man being vitiated in his taste, and his mind stored with such monstrosity of design and detail as this drawing sets forth. What I feel bound to say of these specimens may perhaps meet the eye of the student whose sadly misdirected time and talent has my sympathy; and it may be kindly candour to say that, if a young man were to present himself as a candidate for employment in most modern architects' offices with such drawings as these, they would ensure his being kept outside it as effectually as if he had the plague; so ineradicable are found in experience, when a draughtsman has first been trained in the feeble and antiquated old-fashioned style of drawing, or his mind once stored with bad 'carpenter's' Gothic, the vices first acquired.

Near these last may have been noted some sheets of "practical geometry," diagrams which are more slovenly and badly drawn than I have seen in previous exhibitions. It is very far from my intention to underrate the value of this branch of study. For the elementary study of young artisans and females especially, I know it to be very serviceable; but, granting this, I have a right to tell the architectural student being trained in a master's office, when he goes to the Royal Dublin Society to concern himself with something else.

In the interests of the school and its standing with the public, I venture to say, from what I know of current comment out-of-doors, that the Fine Arts Committee would really serve its usefulness by making a strict and rigid rule that on no pretence whatever should any work not *bona fide* the work of the preceding year be allowed in or near the Exhibition to make fair show, and perhaps even limiting such exhibition to those students' works not disqualified to compete for the prizes; and further, that in no case should it be omitted,

either by negligence or intention, to state prominently on the drawing or work the name, occupation, and age of the student. When from a number of the present rather illegible affixed tickets these particulars are omitted, it is calculated to afford color and substance to a belief (perhaps not fairly deserved, but very generally prevalent) that much of the show is made up by the practised hands of lady 'students' of well matured skill—and years: of a class in society for whom such schools were never intended, and who, in long series of study and with unlimited time on hand, have acquired that marvellous neatness and dexterity of high finish which is so specious in an exhibition, so injurious to vigour and progress as a matter of imitation by students.

If I have had the boldness to tax the school and its system as not providing what architect students want, believe me it is no "attack" on the Royal Dublin Society, honored and deserving of honor for its great enlightened and varied services to the Irish nation, and which has not failed in its time to send forth from its schools artists who have shed glory on their country; but *that* was before the Kensington system was introduced, or ceased to be steel-tempered by the enthusiasm, vivacity, and elasticity of that worthy veteran in art, Henry M'Manus, and had had its heart and soul choked out of it by Kensington formality. Nor would I desire to make an "attack" on its present administrators, who are in all probability, from a Kensington point of view, as near perfection as it is possible for proper systematised officials to be. Any argument of the usefulness of this school founded on the art of the great artists which it has given to the world in past time falls to the ground or cuts against it, for *that* the school is not, most assuredly, doing in these latter days. Time was—I have been well informed by elder artists—in its more unfettered days, when it would send as many as forty pupils at a time to the life schools of the Royal Hibernian Academy, studying to be painters or sculptors. Designers for manufactures it may, perhaps, be producing, but I believe not a tithe of the number I have named now studying to be professional artists are to be found in Dublin. Our native exhibitions indicate no rising and coming professional artists—an indisputable and patent fact. The cause of this strange decadence of artist birth among an imaginative and poetic people must be looked for somewhere, and I unhesitatingly lay it at the door of the great monopoly system of Art-teaching and its lifeless, unenthusiastic, monotonous routine. Is it to be wondered if in a system which has balanced the large amount of good which it has effected in the aggregate by a result in another direction disastrous to the Art-credit of the country I do not see perfection or much helpfulness or hopefulness of teaching for architect-students? Is it marvellous that, with a keen interest in the advancement of the Arts and the honor of the country, I and others should be content to see Ireland dropping slowly and surely astern in the race, in its supply not only of artistically-educated architects, but not less of its painters and sculptors.—Yours faithfully,

THOMAS DREW, R.H.A.

Dublin, January 10th, 1876.

[We do not feel called upon to add anything further to the remarks which we made in our opening article on the 1st inst. Neither do we intend to take up the cudgels on behalf of what Mr. Drew calls the "Kensingtonian School." We are always ready to give that exact meed of praise that is justly due to friend or stranger that does his best, and as we treat individuals as we treat institutions. Every facility should be availed of in this country; and we should not tumble down until we are prepared to rebuild or replace the passing good by an acknowledged better. As for ourselves, we are opposed to cant of every kind and indiscriminate newspaper laudation, whether inspired

or not, or given for a mercenary purpose. We criticise what we understand; and, on questions of Art and Architecture, we certainly do not follow the suit of the daily or weekly Press of this city.—ED. I. B.]

THE GRATTAN STATUE.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—It is, I suppose, vain to expect that any public work in this country can be carried out without what is vulgarly called "blather." One doesn't complain much about it, as it is inevitable. It was not, I am glad to say, offensively prominent at the ceremony of the sixth; but, now that the ceremony is over, I want to call your attention to a small matter.

I take it as patent to all that, if ever a truthful, solid, honest man existed, that man was Grattan. I want to know why his statue was been placed on what I unhesitatingly call a "jerry" pedestal? The only bits of ornament about it—the inverted consoles at the four corners—which were stuck on, have been removed; one of them on the day of the ceremony fell off. They will, all four, be in a few days stuck on again with architectural glue cement—slate or lead dowels, or something of the sort. Now I ask why in the name of common honesty these were not worked on in the solid? It would have cost very little more; and I am quite certain that, if the matter had been explained to the intelligent non-professional members of the committee, the consoles would not have been stuck on.

I see the name of a Mr. Murphy, as an "eminent architect," printed in connexion with the work. I ask in utter and absolute ignorance, How did he qualify for this "eminence"? From the daily papers it would appear that Ireland—not to say Dublin—is full of "eminence," if I may use the expression. In one of them, the other day, I read of this "eminent" architect, an "eminent" auctioneer (in the County Kildare, I think), and an "eminent floral decorator"—a person who sells very good fruit and flowers, not a hundred miles from Nassau-street. I don't want to say for or against Mr. Murphy, except that I never heard of his name in connexion with any public work or large private one before. Doubtless he'll now set up in Dublin and astonish the natives—well and good! I shall be very happy to see him succeed. At the same time I wish he had made a better job of the Grattan pedestal.—Yours, X.

* * Since I wrote to you last, I have gained a little experience which might be of use to Mr. Murphy. He should have his brass plate big enough to get in "Civil Engineer" and "Eminent." My partner and myself have determined on purchasing a new one for our door, as we consider ourselves fully entitled to both distinctions, having been so designated by the public Press. Our present plate is quite too small, being only 9 inches by 18 inches!

MORE GAS DOINGS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—The spirit of thorough contempt of public opinion displayed by the majority of the members usually to be found in attendance at the Corporation meetings, shone forth brilliantly at the meeting held on the 16th ult. At it, a letter was read from the Warden of Standards, London, in which occur the following passages:—"The primary standards were required, under the provision of a statute, to be reported once every five years," and it was found to have been necessary, "No legislative provision existed requiring that the copies should be reverified," which "must have arisen from an oversight" (not the only oversight in that same statute), "and suggested to the council the necessity of having their three copies put into complete order with a view to their re-verification."

It was moved, seconded, and agreed, that instructions should be given to No. 1 Com-

mittee, that the gas inspector carry out the above suggestions. The seconder of the motion, in his speech on the occasion, made dreadful exertions to show that in their establishment in Hanover-street, every gas meter issued by the Gas Company was tested and sealed, and that all such testings were infallibly correct, in the teeth of the repeated published impeachments of such gas meters, and the unparalleled (in any other city) loud outcry and innumerable complaints of them from all the gas consumers in the district. It would appear that daring humbug is the great business of life in the Corporation.

At the Quarter Sessions for the County Dublin, held at Kilmainham Court-house on the 5th inst., was heard the suit of the Alliance Gas Company *v.* Robert Taaffe, for the sum of 11s. 11d., the price of 2,000 cubic feet of gas, indicated by the meter as having passed through it during the quarter ending September last, the using of which bulk of gas, or any portion of it, was denied by Mr. Taaffe and his witnesses. In support of their claim the company produced the Corporation gas meter tester, whose evidence was, that he examined the meter, and that it was in perfect order. Two questions arise here,—did those condemned standard gas measures assist him in that examination? and what was the pressure on the gas passed through the meter at the *asserted* examination of it? This is the first case of the sort that I have read in which the Gas Company sued for the amount objected to, and I have known several instances in which the objections were allowed, and the claims abandoned.

In the last published statement of the Corporate accounts, there appears an item, "paid lamplighters' wages, 53 weeks, £1,179 0s. 6d." When frequently is seen lads, struggling under the weight of the ladder or the lighting rod, attempting to clean or light the public lamps, and when the glass in the lanterns is, as a general rule, so dirty as to prevent one-half of the volume of light being emitted from them, the question forces itself upon us, do the lamplighters really get all this sum of money? I believe that, if at the next audit of the Corporation accounts, the names of the recipients were obtained, some of them would be proved never to have lighted a lamp in their lives.

"Long live the Sultan Haroun," said the owl in the Arabian tale,—while he lives there shall be gloom upon the land. For my part I like humbug, and so I believe does everybody else, though, perhaps, they don't know it, and might not have the candour to confess it if they did.

When seconding the first resolution at the meeting of the Home Rule League on the 5th inst., Mr. McCarthy Downing, M.P., is reported to have said, "Dublin was not, he should admit, giving that support to the Home Rule movement which they looked for from the Capital of the Kingdom." From this we may surmise that the citizens of Dublin have had from the Cork-hill municipal management a sufficient dose of "Home Rule," and that they do not wish for a more extensive experience of it.—Yours &c.,

41 Cuffe-street, JAMES KIRBY.
10th January, 1876.

THE DIAMOND DRILL,

FOR TUNNELLING, SHAFT-SINKING, PROSPECTING FOR MINERALS, QUARRYING, SUBMARINE ROCK EXCAVATION, AND BORING FOR WATER SUPPLY.

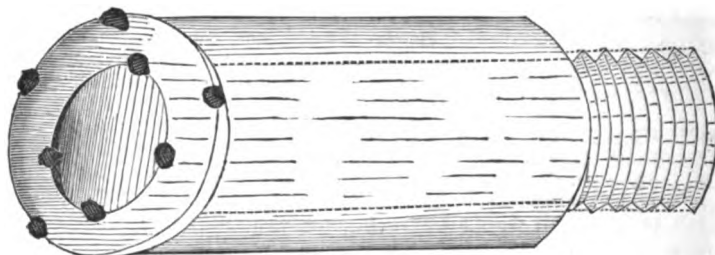
TO THE EDITOR OF THE IRISH BUILDER.

SIR,—This wonderful machine, now brought to the highest state of perfection by Major Fred. Beaumont, R.E., of 2 Westminster Chambers, London, is universally regarded as one of the greatest achievements of modern science for use in any of the above works.

Before entering into a description of the successful results attending the operations of this machine—which I can speak of from actual practice, having had charge of them for a considerable time in England, and also in prospecting expeditions for minerals in the north of Europe,—I will first describe the

boring-bit or "crown." The bit or "crown" is a steel ring, of from 2-16th in. to 2½ in. outside diameter, and about 4 in. in length. This is the size crown for ordinary tunnelling or prospecting, but crowns of a much larger diameter are in use where found necessary, and according to the nature and circumstances of the work, and the strata to be operated on.

In setting the stones or diamonds in the ring, holes are cut out of the steel to the size and shape of the diamond, leaving projecting only as much of the stone as will merely bite against the rock to be drilled—to free the crown, and allow the water and *débris* to pass. The metal is hammered cold round the diamond, and all securely set; the crown is ready for operation. On to the crown can be secured a "core extractor" with movable clips inside, for seizing the core, and preventing it dropping out during the process of withdrawing the boring bars; after the



The Diamond Drill.

core extractor, a core bar of from 12 ft. to 14 ft. long is screwed, which is of larger diameter than the hollow steel boring bars used; these bars are in lengths of from 6 ft. to 8 ft., with steel screwed sockets, all arranged in the simplest and best form, for expedition in adding to the boring bar during progress of boring, and for withdrawing whenever necessary to take out the cores, or for examination of the strata being pierced. When the bars are at work a water-union is fixed on top of them, connected by a hose to the force-pump of the machine, by which a continual stream of water is supplied to the crown; and in this there is another grand object gained—by keeping a watch upon the washings coming up the bore-hole, any change of strata can be at once detected, independent of the cores, and a true geological section of every inch bored obtained. The machinery is worked by a small portable steam-engine, or, in the case of tunnels, by compressed air.

The tunneller is composed of a square frame, fitted up so as to run backwards and forwards on the same line of rails as used by the wagons for removing the excavation; it is mounted with two or more boring bars—worked simultaneously, and the "crown" can be applied in any desired direction, so as to bore the holes in the line of least resistance. In a word, while a miner would be picking out his ordinary drill, and fumbling about, the holes, by the use of this machine, can be bored, charged, and fired.

For shaft sinking there are many beautiful contrivances in the machine for driving the drill, some scarcely larger, and quite as portable, as a common American clock; in cases where headings have advanced beyond shafts, and the latter slow in process of sinking, a bore-hole put through into the heading will be a considerable saving in pumping, and in supplying fresh air to the heading.

Prospecting for Minerals.—I take leave to forward you a card of photographs of some cores, taken from a depth of from 400 ft. to 800 ft. You will observe the fossils are removed as perfect from that depth as from a rock on the surface; this by any other system of boring is quite impossible, and hence the value of this diamond borer to the geologist as well as to mining companies. The cores, which resemble a series of round office rulers, as they are withdrawn from the bore-hole are placed in a core box divided into compartments, the depths from which they are taken marked on the different strata carefully noted, and when the desired depth is reached, as true a section can be obtained as

if a shaft were sunk. In boring for coal, ironstone, slate, &c., it is the most reliable machinery I know of, and I am not quite certain that there is a single means yet tried that I have not had experience in.

In large quarries, either of slate or stone, nothing can exceed the use of the diamond drill for rapidity of drilling, and otherwise facilitating quarrying operations.

In submarine blasting its use has long since been highly appreciated, and the submerged rocks of some of our English ports that hitherto bid defiance to all previous schemes and means tried, were speedily removed by its use. Whether it will be ever adopted in the contemplated Shannon works, or round our Irish coast, it is hard to say; however, if it is, it will be found fully up to any emergency, and quickly riddle rock *in situ*, or travelling boulders, and give a ready means of removing either, with, in a manner, as much ease as on land.

For boring for water-supply, nothing can be more satisfactory.

I have bored and extracted the cores of 60 ft. in about 7 hours, from a depth over 600 ft. The fact is, in boring with this machine, with care and proper attention, both speed, and results in obtaining specimens of the various strata passed through, are marvellous. To go into a full account of the prospecting machine would occupy a great deal of your space; however, if at any time further information is required, I shall be glad to give it.

We are supposed to have a great field for speculation in Ireland. It is generally understood that there is a fair share of hidden treasure in the country; by the use of the prospecting machine, mining companies and private gentlemen wishing to increase the value of their property, can very soon have the real worth of all exposed to daylight, at not a very great expense; while round our coast, the many dangerous bars and sunken rocks can be removed with the greatest ease, and our ports improved at a comparatively trifling expense. In conclusion, for the sake of the country, I would be glad to hear of a dozen such machines being at work, then there would be a prospect of the development of the resources of this country, as well as a material benefit to the lords of the soil.—Yours,

JOHN DUFFY, C.E.

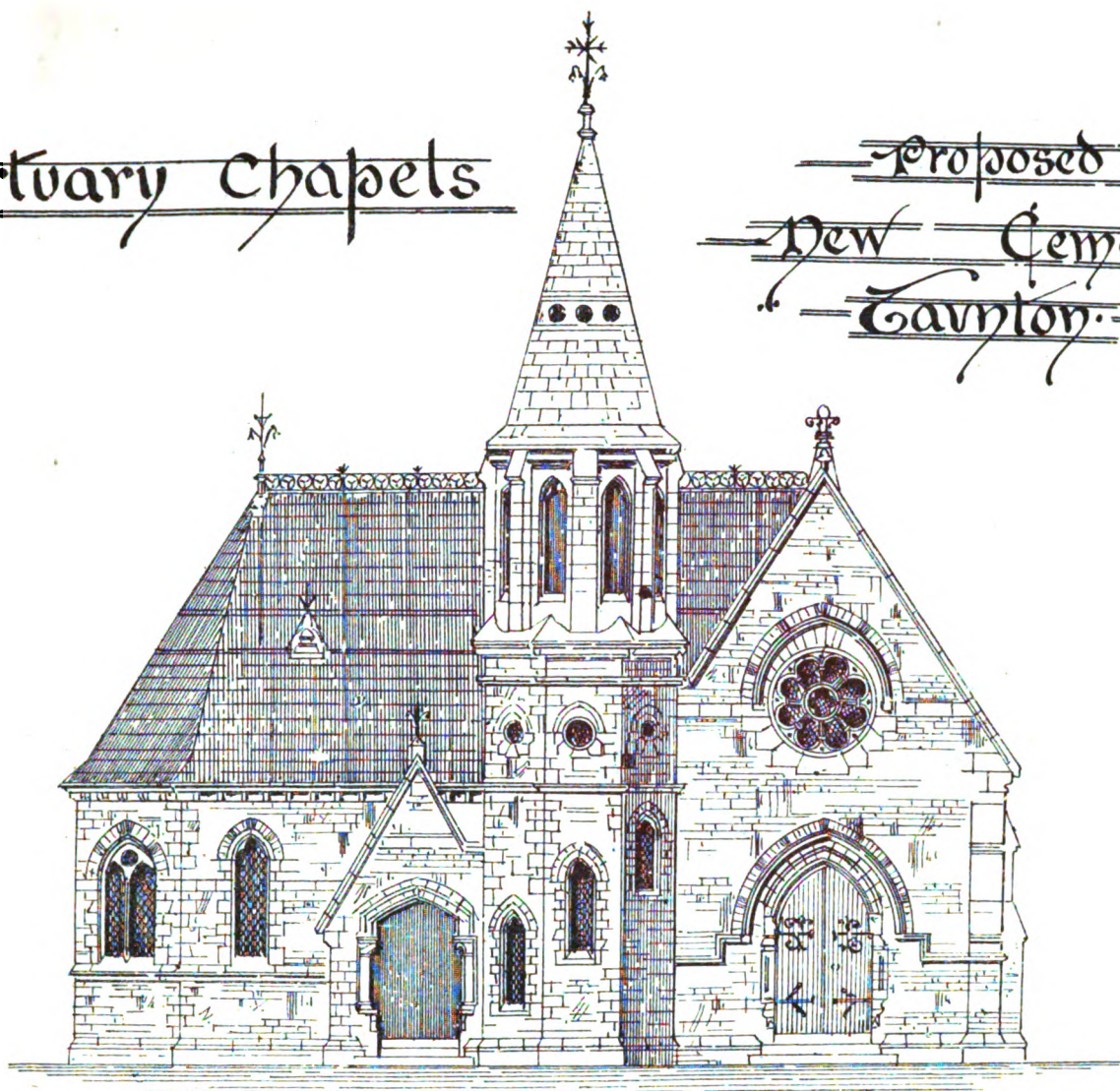
Manulla Lodge, Castlebar,
January 6th, 1876.

INCH ABBEY, COUNTY DOWN.

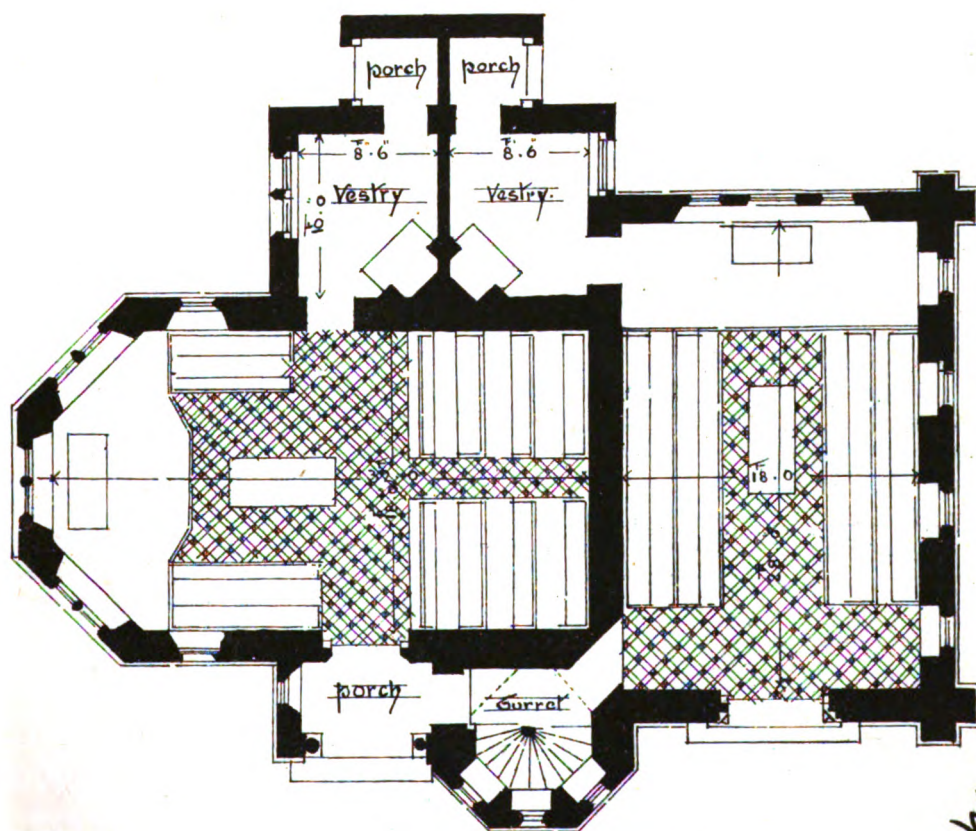
In our last issue we presented our readers with sketches of some of the interesting "finds" brought to light by recent excavations at Inch Abbey, near Downpatrick. The corbel cluster, from which sprang the ribs of the quadripartite groin vaulting of the side chapels, had been built up and covered by a rude wall. This, as well as the base of the pillar and pier responds, are instances of the architectural detail in general use in the church of this once noble Cistercian Abbey; and, in fact, all the vestiges of sculptured ornamentation, mouldings, &c., afford abundant evidence of the nationality and predilections of its founders and inhabitants. The foundation of the present abbey was laid under the fosterage of Sir John De Courcy, a valiant Anglo-Norman. He caused the monks from the adjacent Benedictine abbey to remove thereto, and for various

Mortuary Chapels

Proposed
New Cemetery
Garrington



Front Elevation.



Ground Plan.

Scale 10 5 0 10 20 30 40 50 feet.

W. J. Fennell.
Dublin

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

politic and strategic reasons destroyed their earlier monastic home.

The following record from the registry of Furness Abbey throws light on the translation of this religious and semi-political establishment:—"The Abbey of Inch, in the form subscribed, was made a daughter of Furness, as is more clearly expressed in the register of chronicles of Ulster, concerning its foundation. Therefore, on the third of the kalends of June, in the year of our Lord MCLXXX., and in the third of the third year of King Henry the second, in the third year after the conquest of Ulster, an illustrious lord, John De Courcy, the conquerer of Ulster, founded the Abbey of Ynes, in the island of Ynescuser, for so it was then called, which abbey, indeed, a certain king of Ulster named *Magnellus Markenlefe*, before founded the sixth of the Ides of September, in the year of our Lord MCCCXVII., near the wall of St. Finnan, in the land which is called Erynach, and named it the Abbey of Carricke, and it was of the order of Tyronensi, and a daughter of Savigne; the first abbot of which, St. Evodius, on the day of his death, commanded the brethren to bury his body in the Island of Ynes, and alleged a cause, saying, that house, brethren, will be utterly destroyed, and here will afterwards be the habitation of wild beasts and robbers. There, indeed, a college of just people, and the ascent of holy souls, here briars, and thorns will cover the desert soil; there the fruits of virtues will be produced and brought into the granary of paradise. But be not sad because a good people coming will reform into a better state the desolation which shall be here made. After the transit of which abbot, the said monastery of Carricke remained of the order of Savigne during the times of three abbots—viz., Odo, Devon, and John, in whose time the monastery itself was restored to the Cistercian Order, under the condition that it would afterwards be for ever an affiliation of Furness; but in time the aforesaid John De Courcy having conquered Ulster, entirely destroyed, it was a fortress and had much annoyed him; but as a recompense he founded or rather transferred it unto the Island of Ynes, and gave to its maternal house of Furness, for the purpose of constructing it, the same lands which in the former place it had from the gift of Magnellus, the aforesaid king, and the abbey so-called is made an application of Furness, as it had been before in the former place."

"The year one thousand one hundred and twice forty, Courcy founded Ynes, after this he overcame his enemies."

In the IRISH BUILDER for April 15th, and May 1st, 1875, will be found a description of the remains of this abbey, which points out its general coincidence in plan to the Cistercian model. At that time vast quantities of accumulated debris were being cleared out of the chancel and south transept of the abbey church, and some very interesting scraps of stained glass, bearing fourteenth century detail, were turned up, as well as some other matters of archaeological interest. The ruin is capable of still further development, and would well repay the trouble of having the area of its church, at least, fully cleared of the accumulated soil, and some further attempt made to check the growth of the over-exuberant ivy, so as to dispel the oppressive feeling of desolation which haunts the visitor, and which calls to mind the lines—

"Cypress and ivy, weed and wallflower, grown
Matted and massed together, hillocks heap'd
On what were chambers, arch-crushed column strewn
In fragments, subterranean damps, where the owl
peeps,
Deeming it midnight."

MORTUARY CHAPELS, TAUNTON.

We publish with this number the design submitted in competition by Mr. W. J. Fennell for the Mortuary Chapels proposed to be erected at the New Cemetery, Taunton, Somersetshire. The instructions furnished, required two chapels—one for Episcopalians,

and one for Nonconformists, semi-detached, with a bell-tower to act for both. In this competition forty-two competitors submitted over sixty designs; the successful architect being Mr. Bevan, of Bristol.

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

UNDER the above heading it is purposed to give a series of short notes, remarks original and embodied, bearing principally upon subjects of native interest. The design is nowise new, for it was adopted by a literary magazine published in this city towards the close of the last century. The "*Polyanthea*" of that publication will be availed of, and various other sources, which will be acknowledged from time to time. Our collection, however, will contain much original matter; and it is to be hoped that, where the matter is not strictly so, the treatment adopted will place it above mere servile copy or imitation.

In the city records of London (26 Edward I., A.D. 1289) there is a case of an Irishman brought up before the civic authorities for selling knives of foreign make. The record runs thus:—"Be it remembered that on Wednesday next after the Feast of St. Matthew, Hugh, of Lemeryc [Limerick], in Ireland, was attached for selling one hundred and a-half of knives, as being foreign knives. And the said Hugh came before Geoffrey de Nortone and his fellows, then holding the place of mayor, and acknowledged that the usage as to the same was unknown to him; and because it was found by lawful men of that trade that it had so befallen him, the knives were ordered to be given back to him, and he made an oath in future," &c. Whether Hugh really sold imported knives, it is difficult to say, for under the old trade guilds of London all who resided outside the bounds of the city were termed "foreigners," and this term was used down to a late date.

'Tis said that the Romans held a cook in low esteem, which was not so with the Greeks. The latter before dinner laid a bill of fare upon the table—*apponendo tabellum ferculorum*,—so we are informed by Athænus. Whatever it might have been fifty years ago in Great Britain, cooks are no longer held in low esteem with us, as the salaries offered for efficient hands show. The science of cooking is yearly extending; and, as far as a "bill of fare" is concerned, we have now a journal started for the double purpose of being read and utilised by hotel keepers and others as a bill of fare journal, pages being set apart for entries and entrees.

A good deal has been written about the origin of the Orders, and their respective beauties. A native writer, in alluding to the matter, draws a comparison, which has often been enlarged upon—that is, each visage is so formed that, how ugly soever it may appear, provided it be not disfigured by an accident, it could not be changed without deforming it, for even in ugliness itself nature has observed a symmetry. Thus, he says, according to certain rules, a flat nose ought to be such; and, according to the same rules, a regular face would become monstrous if an aquiline nose was placed on it. The volute is a beautiful ornament of the Ionic and Corinthian orders, but it would be monstrous and irregular in the Tuscan. A small nose, small eyes, and large mouth belong to a certain order of beauty, which has its rules, and therefore it is ignorance to criticise it. Much of the above is true, but association of ideas and long familiarity have a great effect on us in forming an opinion. The volute, as a combination of graceful curves, is beautiful in itself, apart from any order of architecture; and a plain human face, undefaced by accident or abnormal causes, has its attractions for many minds. There is much truth in the old saying that "every eye forms its own

beauty"; and it is doubtful if the man of sparse education who had once formed an opinion about a certain face, would alter his opinion by the greatest amount of scholastic acquirements. Poets see much, and describe much in their verses; but their lines are not a safe guide. "Handsome is that handsome does," is the standard for many practical minds; but even a beautiful face and carriage are forgotten when mammon intrudes itself to inspire the suitor.

One of the earliest, if not the earliest, allusions to varnishing upon canvas, occurs in the London civic records, A.D. 1284. It is an acknowledgment made by one Nicholas Bacun [Bacon], a painter, stating that he was bound to Hugh Motun in the sum of 20 shillings, for cinople, vermilion, and canvas, varnish and verdigris. The editor of "*Memorials of London and London Life*," in the XII., XIV., and XX., Centuries," points out this distinct allusion to the materials used for varnishing upon canvas is of an earlier date, by a century, than the time of John Van Eyck, the reputed inventor of the method.

In the first number of the *Anthologia Hibernica*, 1793, the following curious utterances were made in an article entitled "Remarks upon the Irish Language." The present writer is of opinion that the article in question was written by the Rev. Edward Ledwich, the originator of the magazine named, and author of a work entitled the "*Antiquities of Ireland*:"—"The attempt to compare every known tongue by the standard of the Celtic," the most heterogeneous and corrupt language extant, must ever be esteemed the enterprize of weak intellects. Is this venerable tongue to be suffered to go into oblivion? By no means: let all its scattered fragments be collected carefully, let the canting phraseology of lawyers and physicians be investigated, and a key from these will be formed to decipher the Brehon laws. A good Irish scholar, thoroughly versed in ancient MS., I do aver, would from an intelligent commentary annexed to these laws, be able, in a short time, to make a canting dictionary which would render the whole perfectly easy. No other mode can be devised to accomplish this desirable end, and it lies within the compass of moderate talents." What are we to think of the historian or writer on Irish antiquities that made the above suggestions? If it was Ledwich, the remarks were worthy of him.

In the same publication, and under the same signature, some months later, the above writer, in commenting upon the life and writings of the Rev. Francis Molloy, of the Franciscan Order, but more particularly in respect to that divine's Irish grammar, "*Grammatica Latina Hibernica*, &c.," 1676, writes:—"There are large collections of Brehon laws in the colleges of England, and in that of Dublin, which probably will moulder to decay without any explanation. It is a mistake to imagine their elucidation depends on a knowledge of the obsolete Irish language; it rests solely on recovering the law language which the Brehons confined to themselves. I make this assertion with the more confidence from some attempts I have tried in this way, but not sufficient to entitle them to public notice. However, as a small instance of patriotism, I will not only communicate my remarks, but make a compliment of five guineas to anyone who will give a specimen of his abilities towards recovering the genuine meaning of the Brehon laws." Were the writer of the above alive to-day, how he would smile, or rather how he would be laughed at. He lived, however, long before the days of O'Donovan and O'Curry, and other Celtic scholars who needed to compile no canting dictionary to elucidate their native tongue, and who also, no more than some renowned continental philologists, never dreamed that the Celtic was "the most heterogeneous and corrupt language extant," but rather the reverse. Ledwich, supposing it to be he, was an authority in his day, and a member of the Royal Irish Academy. H.

THE LITERATURE OF GOTHIC ARCHITECTURE IN IRELAND.*

THE history and architectural features of the once-magnificent abbey of Monasternenagh, in the County of Limerick, is last treated of in Mr. Brash's chapter on the Cistercian Order and their Churches. Of the exact locality of this abbey, of which doubts have been raised by more than one native writer, we think that our author has satisfactorily settled the point. The abbey church was one of the largest, if not the very largest one, built by the Cistercians. It comprised a nave with aisles, chancel, transepts, and two chapels east of each transept. Alterations and demolition, together with time, have worked such changes that little remains. The nave extended 160 ft. by 29 ft. in breadth between the piers, and it was entered by an eastern doorway. A lofty couplet window, semicircular-headed, was above this doorway, with effective mouldings. The original nave, Mr. Brash thinks, had an arcade of semicircular arches, springing from circular piers, with carved capitals as responds, as still existing. Those on the piers which supported the central tower, have carved cushion capitals remarkably well executed. An extract here will make Mr. Brash's opinions more plain:—"Across the nave, at about one-third of its length from the east end, is built a solid wall the entire height, having in the centre a small pointed arched entrance. It would appear as if this building had fallen at some late date into the hands of some of the other Orders, who affected long chancels, those of the Cistercians being very short, and having lofty arches opening into same; while, on the contrary, the chancel-arches of the Franciscans and Dominicans are usually very low and narrow, many of them not being much wider than ordinary doors. The position of the wall across the nave would divide the church into the usual proportions affected by the above orders."

The arches under the towers are lofty, and are supported by massive piers with carved Romanesque capitals of a fluted form. The chancel has a high-pitched pointed arch; the east window is a lofty triplet of Early English style, of good proportion. It is deeply recessed by an arrangement of squares and chamfers; it has no label, and the external chamfer, from the springing of the arches upwards, runs into appropriate mouldings. The workmanship of the older portions of the work are described by Mr. Brash as being of admirable character, Romanesque, and finely executed, in a yellowish oolitic stone, not to be found in the neighbourhood.

In many of the churches we have noticed throughout these papers, it has been seen that stone was used that was not to be found near the locality of the buildings, and in some instances the nearest known source for similar stone was the length of two or three counties distant. In other cases the stone must have been procured outside the island altogether. Age, we know, particularly the lapse of several centuries, has a great effect in changing the colour of the stone, but whether its chemical character or natural properties undergo a change in centuries is more than we can assert. Ordinary limestone will not in a building grow into oolitic limestone, but whether ordinary limestone in strata or boulder in the course of several centuries passes from one stage to another we must leave to geologists to determine. On the question of some building stones, their early use and transportation, some further investigations might afford interesting results. Centuries ago land carriage must have been most difficult, and, indeed, our early ships or those of other nations were unsuited to carry any but the smallest quantity of such a heavy building material as building stone.

In concluding his chapter on the Cistercian Order and their Churches in Ireland, and their influence on architectural taste,

Mr. Brash has the following reflection:—"It cannot be denied, that they caused a great revolution in native church architecture as to size and plan, but certainly not as to details, as the decorative features to be found in their edifices are those which had been in use long previously. In truth, that order appear to have studied grandeur and simplicity in their buildings rather than ornate effects; carving was sparingly used by them, and their mouldings were of the simplest character, though in general effective. We have no evidence whatsoever of the importation of the hands of workmen from England and the Continent, which some writers have asserted took place in the twelfth century, and to whom they state our island was indebted for her christian architecture; the only documentary evidence we have on this point is the solitary statement in the life of St. Malachy O'Morgair, that his friend St. Bernard of Clairvaux, sent him the Gaulish monk, Robert, to direct the building of the Abbey of Mellifont, the first Cistercian house erected in Ireland, in 1142. On the contrary, it is quite evident from the peculiar character of the details of the ecclesiastical edifices erected in Ireland during the twelfth century, that the workmen employed were natives."

To these remarks of Mr. Brash, to which we are obliged to subscribe for lack of evidence proving the contrary; we may add also, that we have little or no reliable evidence of the importation of foreign stone—Caen or Portland or Bath oolite—into Ireland at the date above mentioned, or for long years subsequent. In the city records of London there is mention of Portland stone being used in that city as early as 1350, but it was not until the period of Inigo Jones that this and other southern oolites began to be used in public buildings. Sir Christopher Wren gave the first great impetus to the working of Portland stone by using it in his London churches, and at St. Paul's Cathedral in particular. Although inclined to believe that some Caen stone was used in Irish ecclesiastical edifices in the twelfth century, still we have our doubts on the head of any general importation of the material except for small ornamental purposes. In the ruined Abbey of Moyne, on the shores of Killala Bay, oolite was used, but the material is to be found in the neighbourhood. It may yet be found that other strata here and there exist in the other provinces.

We fully agree with Mr. Brash in his remarks that we have "no grounds for depriving our countrymen of the merit of having developed in their own land, in a manner peculiarly national and interesting, the various eras of Romanesque and Pointed architecture." Nor have we grounds for supposing that our early Celtic builders were not fully alive to the building resources of their own land in stone, timber, and materials for mortar and concrete.

A short chapter on "Ancient Fonts" with illustrated specimens follows the preceding chapter, treated of in Mr. Brash's work; and succeeded by this are two very admirable chapters on Irish Masonry, as exhibited in various primitive buildings—historic and pre-historic. These chapters are illustrated with some good examples of early Pagan and Christian architecture, with plans of raths, or underground chambers, and stone-roofed dwellings, &c.

In the introduction to his chapter on Irish Masonry, Mr. Brash writes:—"The subject of Irish Masonry is one of exceeding interest to the architectural antiquary, and upon which much ignorance prevails. I have frequently been asked the question, even by persons who ought to know better, 'Had the Irish race any knowledge of masonry before the arrival of the Anglo-Normans?' and have often been amused at the look of incredulity and surprise with which my affirmative answer has been met. That the Gaelic race were at a very early age remarkable builders in stone, I have already set forth in my first chapter, and at a period long antecedent to the advent of either Norman or Saxon into the British Isles. The pre-his-

toric tribes who peopled Ireland before the christian era, were remarkable for their megalithic erections. The south, west, and north-west of our island, even to the present day, exhibits to us an immense number of Pillar-stones, Cromlechs, Giants'-graves, Cashels, or stone-built forts, and Clochans or stone-built houses or huts. Some of the pillar-stones are of great size, and shew that the people who erected them must have possessed a certain amount of mechanical skill, as brute force, alone, could not have elevated them, inasmuch as it could not be applied without the intervention of some ingenious apparatus."

Cromlechs, Giants'-graves, Druids' altars, &c., are variously described in convertible terms. Some writers have ascribed their use to the Druids or Pagan priesthood, but whether these altars, so-called, were used for sacrifices, it is difficult to precisely determine. Some were fitted for the purpose, others were nowise fitted. Another later class of writers associate these erections with sepulchral uses, as under them human remains have been sometimes discovered. Mr. Brash is of opinion that both schools of writers have erred in pushing matters to extremes, the truth lying between them. A classification, perhaps, would settle the matter by discriminating between the erections, and showing those that could have been used for altar purposes, and those others possibly intended for sepulchral. The distinction betwixt cromlechs and cistvaens is drawn by Mr. Brash, though, commonly speaking, both are often confounded. The external area of the cistvaen, according to our author, seldom exceeds 4 ft. wide by 4 ft. high. The cromlech, in some instances, reaches to a height of 20 ft. and upwards. The underground chambers of the raths are probably, says Mr. Brash, the earliest examples we have of constructive masonry. He thinks there can be no doubt as to the great antiquity of those camps, forts, or habitations of the ancient inhabitants of this island, as they are mentioned in our earliest annals, and their construction attributed to our earliest colonists.

Roderick O'Flaherty, writing in his "Ogygia" of the Belgic race, says:—"Of the Huamorian family Aengus and Conquovar flourished a little before the birth of Christ, under Mauda, Queen of Connaught. From that time Dunaengus, a great stone fort without cement, which might contain in its area two hundred cows, on an amazing eminence of the sea, erected with cliffs of stupendous magnitude, is yet to be seen in great Aran [Arran], an island in the Bay of Galway, renowned for the residence of St. Ende, and afterwards for a multitude of anchorites and holy men; ever since it is called by the perpetual traditions of the inhabitants, the Down of Conquovar, the son of Huamor. There is such another mound without mortar not far from that to the east in the middle island of Arran."

Some particulars of the remarkable primitive structures existing upon the Arran Islands are to be found in some papers read before the Royal Irish Academy, by Mr. G. H. Kinahan, F.R.G.S.I., in the years 1866-9, and some of these stone-roofed dwellings or clochans are illustrated in Mr. Brash's work.

In our next paper we will further allude to these early buildings, and to some peculiarities of early Irish masonry.

THE ARRANGEMENT OF MATERIALS IN CONSTRUCTION TO PRODUCE SATISFACTORY EFFECTS.*

THE majority of you have doubtless at one time or another—some of you many times—left Belfast, and in the course of your journeys visited towns older and more interesting, architecturally at least, than our own, and been struck by the brightness of effect produced by the brick and tile, the timber-work and plaster of the quiet, quaint towns

* By Mr. F. W. Lockwood. Read before Belfast Architectural Association, on the 3rd inst.

* See ante.

of Norfolk and Suffolk, or the old manor-houses of Essex, Kent, and other counties, and their host of modern imitations. Especially, such of you as have enjoyed the privilege of a run through the lake district, after seeing Ambleside and Grasmere, must have come back impressed with the marvellous power for architectural effects of colour which lies in the commonest materials when their nature is favourable, and the opportunities that we lose when we omit to make use of our power of *selection* towards the same end. The materials and the work are simple enough, merely the local stone, like our County Down, but of a warm, purplish grey; this and the green Westmoreland slates, with a touch of brick here and there, and a little woodwork—the whole with no special architectural merit of design, but by the effect of colour alone, adding a double charm to the landscape, from which, in turn, they borrow that help which the richer works of Nature lend, when in harmony, to the works of man.

To those who have travelled farther abroad a little consideration will possibly suggest that part, at least, of the effect which Paris produces on all its visitors is due to the superior brightness and purity of its colour decorations to those of most English towns. The readers of the "Stones of Venice," and Street's "Brick and Marble Architecture of Italy," need not be told that more than half the fame of Lombardic and Venetian architecture is due to their wealth of coloured building materials, and to the skill with which they have been applied.

As I wish to make this, as far as my limited capacity and experience will allow, a practical paper, and to treat more especially of those materials which lie within our immediate reach, I will say no more of foreign works, but commence at once—where charity is advised to do—at home. The first and commonest material which attracts our attention, then, is brick—white, red, and the ordinary dirty brown stock brick. We will waste no time over the latter, except to say that in some of the older buildings of Belfast are to be found specimens, dating from a time when greater care was taken in their burning, which were capable of being worked up in a modest, sober, and quiet architectural composition. The general tone of the Belfast "perforator" is rather too light a red to be so pleasing as some examples—the common Suffolk dark red, for instance; and if you want to aggravate this original defect, you can readily do so by the use of white mortar joints, or still more by the application of that diabolical invention of the plasterer's craft, tuck pointing, whereby you gain a harsh orange tone of general colour, and lose every particle of breadth of effect by cutting your whole wall surface up into a number of tiny parallelograms of white lines, nine inches by three. The chief æsthetic deficiency in brickwork is its want of repose—so by toned, not too dark, mortar and general breadth of treatment, we should endeavour to supplement this. The bricks that are nearest the flame in the kilns generally burn rather white, but I cannot say that the chequer-board appearance which the selection of these in Flemish bond gives is very pleasing; it has rather too much of the doll's house look. Their application in English bond is not quite so objectionable, because it presents more breadth, but is still streaky. Most of the white bricks used here are of rather too cold a grey to be quite satisfactory—a little more variety in their colour would be an improvement. A body of white brick, picked out with red, looks far more pleasing than a body of red relieved with white. It is indispensable that the mixture of colours in brickwork should be treated constructionally, and bands naturally suggest themselves, but here streakiness is the great danger.

The Clarence-place Hall may be cited as an example where an attempt has been made to treat brickwork architecturally. In this building a sound principle has been followed. The main or lower storey (on a small basement of stone) is of red brick, justly so placed, as darker in colour; the upper storey

is of white brick, as naturally lighter in effect; a stone string divides them, but the white is carried down into the red, or the red up into the white, so as to avoid any crudeness in the junction. The cornice is of red brick, as a sort of repetition of the colour, and a single line of white low down on the ground storey helps to keep up the balance. Examined critically, I do not see that these dispositions could be much improved, and they all seem sound in principle; nevertheless, I have heard adverse criticisms, but I suppose there will never be absolute unanimity amongst architects. The most we can hope for is a good-natured approximation to it.

The Masonic Hall in Arthur-square is a pretty good example of the use of colour in materials, but the contrast between the so-called white brick and the pink Scrabo stone of the upper arches is, after ten years' exposure to weather and town smoke, not very pronounced, both getting to look a uniform grey; some patches of red brick come out far more bright, and do not appear to have lost their colour in the least. Brickwork calls for more care and study than it often obtains, it being generally shuffled off as a cheap material that will not repay the architect his attention; yet it has played an important part in English architecture, especially in London and the adjacent counties. If we can discover anything to be gratified with in the fashionable Queen Anne craze, it is in the increased care and value bestowed on brickwork. Yet I think the elaborate carving now done in brick is wrong in principle, though sanctioned by so eminent an authority as Sir Gilbert Scott, who has employed it much effect in Beckett's Venetian-Gothic Bank at Leeds. It is there used in the form of enriched bands.

The application of dark-red terra-cotta bands and panels is not only legitimate, but to be recommended, as giving richness both of colour and general effect. The combination of encaustic tiles also merits more frequent use than it has obtained. Generally speaking, these have been too spotty and gaudy in their character, destroying that breadth which we should be always seeking after in brick architecture. In brick architecture you have to search for breadth; in stone it often comes unsought. Pattern tiles, unless very simple, should be avoided in external work. Tiles especially are not things the selection of which should be left to the client. He is sure almost to choose the prettiest, which will never turn out the best when incorporated with the general design of the front. Such examples of fire-clay and yellow terra-cotta as I have seen are not pleasing in colour, and I would rarely feel tempted to recommend their use. Perhaps in large quantities, and in engineering work, they may be less open to objection, but they always suggest to one's mind the cheap imitation.

Stone plays an important part in our buildings, and deserves a large share of our attention. Its chief natural characteristics, as I have stated, are breadth and strength, and these we must seek to retain in our work. Foremost on our list come the granites, and no stones retain their natural colour so well as these. Our grey native granite is much in demand—that from Bessbrook is lighter, from Goraghtwood darker, in tone. The grey Dalbeattie, from Scotland, is lighter than either. There is a beautiful silver grey granite from Donegal, very fine in texture, but not in the market, I believe. There is also the red Peterhead. The flesh-coloured granite from Westmoreland I have not heard of as being used here. The use of granite may be either in mass for a whole building or storey, or in such proportions as polished shafts. Nothing gives such an idea of strength as polished granite, doubtless from the suggestion of hardness which it conveys. A further consideration of the application of granite may be taken with the other building stones. For these we are fairly well off here. Nearest to us is the Scrabo sandstone, of which the greyish-white quarry, known as

"Cargo's," is no longer worked. The colours may be described as pink, grey, greenish-grey, and the mottled beds of hardened chocolate-coloured mud, which are only to be avoided. The pale-red Dundonald is only an offshoot of the Scrabo. The imported Dumfries and Runcorn stones are better reds and harder, though perhaps not more durable. Most of the Scotch stones are of an unpleasant tone of colour, an ochreish yellow predominating, and they have the further defect of rapidly decaying. Glasgow, however, has recently sent us a very good cold light grey stone from Messrs. Baird and Stevenson's Tunnel Quarry. A building is now being erected in Lombard-street entirely of this stone, but I question whether a mixture of some brighter varieties would not turn out an improvement.

To go back to our native stones, the Duncannon is of a pleasing warm colour, though sometimes inclining to a rusty colour; the Cookstown is a beautiful light grey, nearly white. These constitute our principal free-stones; and, before taking up other stones, we will make a few general remarks on the application of the foregoing. In the first place, no stone, however carefully selected, will be perfectly uniform in colour, and to insist on such is a sure sign of a depraved or at least imperfectly developed taste, consequently there will turn out a pleasing variety of colour in a stone wall, even without any conscious intention on the part of the builder. It is strange that this result does not more often suggest a little selecting care, when the hint is thus given daily before our eyes. For instance, the grey and greenish stones of the Scrabo will work up for the body with pink bands and dressings. The Scrabo again makes a good body with whitish grey Glasgow, or still whiter, Cookstown.

There have been several buildings erected recently of Dumfries or other red stone, with white quoins and other portions, the Armagh limestone working in for this purpose with a more sparkling effect than any other. By itself it is grey, seen beside red stone it appears white, yet still a toned white. I do not remember a happier instance than in the late Mr. Pugin's Catholic Church in Thomas-street, Dublin. I think that some light stone—Cookstown for instance—would work in with pretty good effect with red stone dressings. A light grey or yellow stone does very well with bands of darker stone, such as some of the bluish limestones from Benburb, near Armagh, for instance. As a general rule the whiter and brighter stones should be sparingly introduced, and in the higher portions of the building. The glittering white stone, brought from somewhere in the south, which forms the spire of the Seaman's Church, in Corporation-street, for instance, is an example, but in this design, in some respects a really good one for a town church, there is a lamentable crudeness of treatment: the spire has no connection with the tower, nor the tower with the body of the church, nor yet, again, with the pipe-stems which do duty for attached shafts round its sides. Some of the granite spires near Dublin also have a very bright effect.

There are several local stones used in building to which I must now call your attention. Many of the slaty Silurian rocks, which spread over the length and breadth of the Co. Down, are largely used for common walling, and where the architect makes use of them they might claim more attention from him than they generally receive. Perhaps a purplish grey is their prevailing tone, but frequently the same or an adjacent quarry will yield red, brown, and greenish grey. A little thought, and a trifle more per perch will make all the difference between a suite of stable or farm offices, or a demesne wall being in harmony with the landscape or an eyesore to it. In the same way the basaltic rocks of Antrim and Derry are really of a variety of colours—grey, purple, black, and greenish grey, and vary greatly in the same quarry: selected and arranged in bands, many a common wall would show a much happier effect, only where is the British workman to see this and take

the trouble? The white limestone, or more correctly, hardened chalk, of the North of Ireland will never be much of a building stone, but it might be sometimes worth the architect's while to make a moderate use of it—perhaps many will consider it too pure a white, but skilfully used the effect I conceive would be brilliant and sparkling. Its application in a well-known house under Cavehill, though scarcely successful, is yet, at any rate, suggestive. Other hints may be derived from the walls along the limestone railway between the Antrim-road and North Queen-street. A main storey of black stone, which, as I have shown, is, in reality, anything but black, with a small, well-managed upper storey of white limestone, would have a very pretty effect on a hill-side, or in many a country or sea-coast district. In the same manner, where carriage was not too expensive, Dumfries or Dundonald stone, with an upper storey of limestone, would not have a bad effect—care being taken in all these cases that the junction of the two materials be not too abrupt. That one colour should always be carried over into the other is a well-known law of colour composition. An upper storey of brick on one of stone is also a very legitimate mode of obtaining effect, which might be much more often practised than it is.

In judging of the effect to be produced by these different materials, we must bear in mind that no inconsiderable portion of the result is due to their texture, the stone being left rough, or finely chiselled, the granite sometimes being polished and the brickwork divided up into a number of small joints.

(To be continued.)

HANDICRAFT AND HANDICRAFT TOOLS.

HAMMERS.

(Continued from page 11.)

As the principles which govern the operation of small things may be best studied in large ones, so here. For this purpose we may at the outset regard the hammer as a weight at one end of a rod, of heavy or light, of elastic or non-elastic material, the position of the hand on this rod varying according to requirements (as the fingers of a violinist on the strings of a violin), and so modifying the effects of the hammer. Speaking generally, the effect is produced by allowing what we must call the head to fall through a space, and then come in contact with the material to be influenced by the blow. Perhaps, the objects to be accomplished by the blows of hammers are more varied than those to be effected by any other single tool. It may be questioned whether there is any handicraft operative who carries through any branch of his trade without using what he calls, or what we may call, a hammer. Although under this general name each artisan understands a certain tool employed in his own trade, it does not follow that he generalises, and so extends his views as to comprehend all the varieties, both in material and form which present themselves between the heavy two-handed maul and the smallest tapping hammers of the jeweller and watch-maker, file-maker, and diamond-splitter.

It is curious to see how in the same trade the hammers are for different purposes made of different materials. The engineer, for example, uses hammers faced with steel hardened, the stone-breaker (or mineralogist) hammers faced with steel softened (or rather not hardened). Again, in another part of his progressive work, the steel hammer with which the engineer commenced his operations gives place to a bronze or copper one, and this is sometimes displaced by one of lead alloyed with tin, and the usual handle entirely discarded. It then assumes in all respects save material the form and mode of handling as described in the account of the pre-historic stone maul. This leaden cylinder, about 2 in. in diameter and 6 in. long, is the primary form of this second maul, which is about 3½ in. in diameter and 3 in.

long, the ends, as you observe, being very much spread out. There is no handle to this tool; occasionally it is made of a mixture of lead and tin, in order to impart a hardness not possessed by lead alone. To strike where required the bright part, in the erecting of heavy machinery, the engine-fitter makes use of the contrivance now before you.

The plumber dismisses all these, and for direct action upon the material employed in his trade he uses a hammer of wood, discarding not only the material, but also the form of hammers used in allied crafts. Indeed one of his hammers serves a double purpose, for if at one moment it is a hammer, at the next it is used as a swage. Then there is his ordinary hammer, but when carrying on his allied trade as a glazier, not content with this, even the handle is finished in an unusual manner, probably for convenience in holding putty, which he often carries "dabbed" on the handle. In some cases, as in the working of copper vessels which have been silver-plated or gilt, the coats of the precious metals are so thin that, although the weight of a hammer head is required, yet even the wooden hammer of the plumber, or the still softer leaden hammer of the engineer, is equally unsuitable, and therefore the workers in these metals cover the face of their hammers at times with one or more layers of cloth held on by a ring which slips round the ordinary hammer-head as the hoop on a child's drum. The covering of the hammer-head with cloth, to preserve the material on which the blow is struck, is not, however, the only use made of a jacket over the hammer. For one purpose when a leather jacket is employed, even a leaden hammer might prove inconveniently noisy.

In a case brought before the Lambeth Police-court on 19th January, 1875, Edward Simpson (shoemaker) and others were charged with house-breaking. The implements used in this occupation were produced, and the newspaper report states that "one feature of the exhibition was a leaden hammer capped with leather, which it was stated was used for the purpose of driving wedges into safes, the leather causing the blows to be almost noiseless."

The veneering hammer, again, is compound, one end being formed of metal and the other of wood. This hammer is used, the one—or metal—end as a squeezing hammer (if such a term may be employed), the other as a tapping hammer, in order to ascertain by the sound produced where the veneer is adhering, and where it is not.

The stonemason seems to claim a universal choice, both of material and form. As to material, he has and frequently uses hammers made of wood, of iron (steel-faced), and of an alloy of lead.

In some cases the hammer and the anvil mutually change places, the hammer of wood, the anvil of metal, or the converse. Nor is the wood always of the same character. As varied as are the characters of the woods themselves, so varied are those chosen by different crafts for the employments of each craft. Even the varying density of the woods gives place more frequently than otherwise to lead, and we meet with metal hammers used on lead covered anvils.

In the last journals of Dr. Livingstone, he mentions (page 89) that on one occasion he saw a Bushwoman, in Cape Colony, using as a digging hammer a round stone with a hole through it. Through the hole a rod was inserted. The end of the rod was used for digging, the weight of the stone assisting the muscular effort. He also states that these people prefer stone hammers and anvils, because they do not burr up as iron ones do. In vol. i., page 146, there is a wood-cut illustrative of the mode in which these stone hammers and anvils are used. It differs materially from the plans supposed to have been adopted in the stone age. The hammer stone seems to be selected with careful reference to its shape, which approximates to that of a truncated cone. It is then bound round with the strong inner bark of a tree, and handles being formed of loops on

opposite sides, the man, using both hands, raises the stone hammer above his head, and thus by muscular exertion, aided by gravity, he gives a blow of the requisite intensity. A heavy stone sunk in the ground forms the anvil. The bellows consist of two goatskins, with sticks at the open ends, which are opened and shut at every blast.

On page 155 of the same journal, is the wood-cut of a mallet used by the same people for separating and softening the fibres of bark by a process of tapping. The head of the mallet is often of ebony, with the face cut into small furrows, smaller, but similar to those used on our meat hammers. There is before you what we may call a mallet (although differing in form from those we use) which was brought very many years ago from Otaheite. This also is cut on its four sides into small longitudinal furrows; each side is not an exact counterpart of the other. There is also here the felted cloth made by the use of this mallet from the bark of trees. The mode of proceeding in the manufacture is identical in principle in the interior of modern Africa and in long past days in Otaheite.

Turning to the most primitive hammer, the doubled-up hand (the fist), we find a compound material, flesh and bone. It cannot be supposed that such an instrument was made to be used as a hammer. It is, however, so used, and although the hand as a tool is essentially a vice, yet it may have been the suggesting type of those compound or comprehensive *multum-in-parvo* tools which can only be useful under circumstances of emergency. It is curious how modern practice has utilised this natural hammer by at one time endeavouring to destroy the effect of its bony parts, retaining only the fleshy, and at another time neutralising the fleshy, retaining only the bony. These converted hammers are both used in the "jousting sciences"—"the noble art of self-defence." Even the bony parts of the hammer become more soft and elastic than the fleshy parts by means of this boxing-glove, and the fleshy parts become more hard than the bony by means of this "knuckle duster." In some cases, the workman transfers the putting into action of the hammer to the foot, and thus sets both hands free for manipulating the article to be operated upon. The hammer now assumes the form and mode of action of a pile driver, except that in this case the face may be formed in swage fashion, the height to which the hammer can be raised before being set free being at the will of the operator, and thus blows of varying intensity may be discharged upon the article placed under it. If, as in the case of raising metals by stamping, suitable and progressive dies or outline forms of the inside and outside of the object are prepared, then the introduction of these under the pile-driven form of hammer enables the workman to change the shape of the metal without cracking or fracturing it. Thus thimbles and extinguishers are made.

In this case the hammer is without a handle, and operates in the most simple way possible, viz., by the direct uncontrolled and unadded-to force of gravity, and, as we shall see hereafter, furnishes the principle upon which to calculate the power of all hammers. The value of a handle, even to this primitive pile-driven workshop tool appears, however, to have been duly appreciated, and the handicraft contrivance called an "oliver" seems to have displaced the primitive form, except in places where wrought-iron nails are forged.

The "oliver," as described by Mr. Holtzaffel, and figured on page 963, Fig. 973, "Mechanical Manipulation," is a simple and useful substitute for a sledge hammerman, enabling a single workman to accomplish what is generally considered a two-handed operation. This simply-constructed foot-worked "oliver" has been adopted as the type of one introduced into small works and set in operation also by the foot, which in this advanced form of the instrument regulates the admission of steam to the driving parts.

THE GRATTAN STATUE.

ON the 6th inst., at College-green, the statue of Henry Grattan, which has been for some weeks hidden from public gaze, was unveiled in presence of the Lord Mayor and Corporation, and a large concourse of the gentry and spectators of all classes.

VISCOUNT GOBT occupied the chair.

The ceremony was performed by Lady Laura Grattan. The statue is of bronze, 9 feet in height. It represents Grattan in one of his characteristic attitudes while speaking, his right hand and arm being stretched out, while his left hand is placed on his breast. The aquiline and deeply marked features of the man, so familiar to almost all through portraits, are reproduced with singular vividness. Intense emotion is stamped upon the face, as if the artist by an effort of imagination had pierced through the past, and seen his subject at some moment of an oration, when with intelligence and passion fused together in one piercing ray, he was smiting some opponent to the dust, or destroying a mass of sophisms at a flash.

The report of the memorial committee was formally presented by the Hon. J. P. Vereker.

The large assemblage having been addressed by some M.P.'s and others, the chairman said—"My Lord Mayor, on behalf of this great meeting, I hand over to you this statue of Grattan, to be preserved by the Corporation in trust for the people of Ireland." The custody of the statue was accepted by the Lord Mayor and Mr. M. Brooks, M.P., on behalf of the Corporation. The latter gentleman reminded the citizens that Grattan's father filled one of the chief offices in the Corporation—that of Recorder of the city. To the other objects and responsibilities with which they were entrusted, the care of their National Monuments were fitting additions.

In honour of the event, the trade societies mustered in large numbers with their bands and banners, and kept the city alive during the day.

ANTIQUITIES
IN COUNTY KILKENNY.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—In looking over the volume of your journal for 1875, p. 121, I found an illustration of sketches taken in Graigue, County Kilkenny, my native place. This ancient town abounds with matter for very interesting sketches. To serve as an illustration for the IRISH BUILDER, I would take the liberty of calling your attention to the interior view of the Roman Catholic church of Graigue. The chancel and transepts belong to the old Cistercian abbey of St. Mary in Duiske (ancient name of the place). You will find in Mr. Samuel's studio, 80 Westmoreland-street, an admirable photograph of the interior of this church. For purposes of Art and Art-decoration, it would be worth publishing in your journal. You have the chancel-arch in its perfection, the chancel windows, and the great eastern window, a triplet. The stained glass in the great eastern window was put in by my brothers, to the memory of their parents; and if you would wish to know the subjects in the window, you can get an account of them from Messrs. Earley and Powells, Camden Works, Dublin, who erected the window. The abbey, erected in the latter end of the Transition Period, is filled with curious and interesting remains, having the pointed and the round-headed arches. Ullard, an old Irish foundation, about two Irish miles from Graigue, is remarkable for a beautiful doorway of the Romanesque character (nearly as good as Killeslin, Queen's County), and for the head of a fine old Celtic cross. There are some drawings of the Ullard antiquities in the Royal Irish Academy House, Dawson-street, made during Ordnance Survey. The draughtsman is sadly wanted in that quarter. You will excuse me

for calling your attention to these matters, but I do so in the interest of Art, and to rescue the antiquities of my native place from obscurity.—Yours, &c.,

J. HUGHES.

St. Patrick's College, Maynooth,
January 12th, 1876.

THE
ARCHITECTURAL ASSOCIATION
OF IRELAND.

ON another page we give the paper on "Working Drawings" read by Mr. J. J. O'Callaghan before the above body on the 30th ult., Mr. W. M. Mitchell, vice-president, being in the chair.

The paper was illustrated by a diversified collection of working drawings, which included a set of measured drawings of St. Canice's Cathedral, Kilkenny.

A discussion ensued, in which Messrs. D. J. Freeman, H. C. Brett, J. L. Robinson, W. J. Fennell, T. H. Longfield, A. W. Robinson, and the chairman took part, chiefly in reference to the necessity of showing the stone jointing on detail drawings, and the various points to be noted in preparing drawings so as to have staunch buildings.

A vote of thanks to the author of the paper was passed unanimously; and after an explanation of some points touched upon during the discussion, by the lecturer, the meeting adjourned.

The next general meeting will be on the 27th, when Mr. William Fogerty will read a paper on "Hints from American Practice."

BOOKS RECEIVED.

Spon's Architects', Builders' and Contractors' Pocket Book of Prices and Memoranda. 1876. London: E. and F. N. Spon, Charing-cross.

THE third year's issue of this valuable pocket-book is before us. It appears in an improved form, and with several new woodcuts. We can recommend it as a useful and handy book of reference.

"RESTORATION" ON DOWNHILL.

SOME "restorations" have taken place at the Irish residence of Sir Hervey H. Bruce, which are thus described in the *Coleraine Chronicle*:

"The most noticeable changes from the plan of the old building introduced and carried out by Sir Hervey, consist in the removal of the principal entrance from the court-yard to the west side of the mansion, and the placing it on the basement floor. In front you enter through the vaulted chambers, under the new winter garden, and rise to the level of the principal floor by a flight of stone stairs opening into the main staircase, and immediately communicating with the new corridor, off which you approach the dining-room to the S.E., the library to the S., the drawing-room to the S.W., and the boudoir to the W.; the winter garden at the north end of the latter; and the billiard and smoking-rooms being all in the west wing. The east wing was not destroyed by fire, and is now principally used for domestic and private apartments. The old morning-room has been turned into the library, and the old corridor, which formerly ran at the back of it, and at the end of the dining-room and drawing-room, has been entirely thrown into these three rooms, thereby considerably enlarging them. The position of the old staircase has been changed by removing it further down the court-yard, and the old entrance door into same has been closed up, and remainder as above referred to. The old library and gallery have given place to the winter garden and the billiard-room. Between the winter garden and the boudoir there is a sliding glass panel, with a sliding shutter to cover same, so that the winter garden can be made visible or invisible at pleasure. The floors of the principal rooms are laid with Arrowsmith's parquetry, or bordered with same. The bed-room accommodation for visitors has been principally obtained over the boudoir, drawing-room, library, and the dining-room, in connection with which are all the latest improvements in bath-rooms, &c. The luggage lift rises from the basement through the serving-room to the service lobby on the floor above, and close to the service stairs. Over the smoking-room are

bachelors' rooms approached by a private staircase. The winter garden is carried up two storeys, and has a glass roof, and the flower beds are formed by tanks in the floor. The billiard-room, which is beautifully finished in pitch pine, is also nearly two storeys in height with a coved ceiling, in the cove of which are very successfully introduced lights giving the room a very pleasing appearance. In the roof space over the billiard-room are numerous water cisterns carried on iron beams. All the antique and very beautiful chimney-pieces and marble and oak columns have been restored, and, as far as possible, also all the old plaster work. All the external stonework destroyed by the fire has been very carefully restored, and the two domes which used to exist on the extremes of the wings have been entirely removed, and the roof carried through uniformly. All the works have been most carefully and creditably carried out by Mr. James Henry, of Belfast, under the superintendence and direction of John Lanyon, Esq., F.R.I.B.A."

TO CORRESPONDENTS.

Some articles intended for this issue are unavoidably held over. Correspondents inland and across the channel must excuse us for the nonce in not promptly replying to their queries. We are seldom remiss in this particular, but "accidents will happen."

HOME AND FOREIGN NOTES.

ROYAL DUBLIN SOCIETY.—At the third scientific meeting for the session 1875-76, to be held on Monday evening, Mr. Charles Dawson will read a paper on "The Dwellings of the Labouring Population."

THE BRAY PIER PROJECT.—A correspondent of a morning journal says:—"There is authority for stating that the engineer and promoters of a promenade pier for Bray, for which an Act of Parliament has been duly obtained, have been communicated with by an eminent firm of contractors in London, with a view, if practicable, to carrying out this desirable project. Photographs, plans, and statistics have been asked for; and Mr. H. Brett, C.E., who is resident engineer of the proposed works, has, it is understood, undertaken to supply, without delay, all information required in the matter."

THE NEW FREE BRIDGE AT WATERFORD.—At the Waterford City Presentation Sessions the citizens applied for £44,000 towards the building of a free bridge across the Suir, to connect the Counties of Kilkenny, Tipperary, and Wexford with the City and County of Waterford. The scheme was opposed by the solicitor to the Waterford Toll Bridge Proprietors, but on a division the presentation was carried by a majority of six to five.

PROPOSED SEWERAGE OF MARYBOROUGH.—The *Leinster Express* says in reference to the rejection of this scheme, that "The inhabitants of Maryborough may be congratulated on escaping from the necessity of undertaking a very considerable and expensive piece of work. Some time ago a new plan of sewerage for the town was prepared at the instance of the local board of guardians, and it was estimated the cost of carrying out this plan would be upwards of £1,000. In a small town like Maryborough improvements involving such an outlay should be undertaken only after the greatest consideration, and in this instance the fact that competent authorities affirmed the work could not be done at the estimated cost was an additional reason for caution." We trust that the needful sanitary requirements of the town will not be overlooked through the rejection of the contemplated scheme. The state of the town is not above criticism.

CABMEN'S SHELTERS.—At Williamson-square, Liverpool, a shelter has been erected at the expense of Mr. J. J. Stitt. It is a moveable structure, 15 ft. long, and 7 ft. wide, formed of stop chamfered timber framing, darkly stained and varnished, with diagonal braces to correspond, while the intermediate boarding is only slightly stained. The upper portion all round is glazed, and ample provision is made for ventilation below the overhanging cornice, which is supported by the curved brackets springing from the main upright. The roof is covered with zinc, and the ridge is surmounted with ornamental metal cresting with finials. Internally the shelter is divided into three compartments, the first and larger one fitted with seats on each side, under which are twelve lockers for dry clothing. The central compartment contains the cooking-stove and lavatory, and the third is supplied with Moule's earth closet. The corporation have granted a supply of water for cooking purposes.

GAS SUPERSEDED AT NEWBRIDGE.—Several of the traders at Newbridge, County Kildare, have substituted kerosene or paraffin lamps for gas, and the Newbridge commissioners have prepared handsome new lamps along the road from the Newbridge station to the Main-street for kerosene. The residents allege as the reason for the change that the price exacted for the gas is excessive, and that the light given is not satisfactory.

INDIGESTIBLE DIET.—At the ordinary meeting of the Bath and Bristol branch of the British Medical Association, Mr. Thompson brought before the meeting the case of a female lunatic who had swallowed thirteen iron screws, each weighing upwards of 700 grains, the patient being still alive. Dr. Marshall read a record of the case of a sailor who had swallowed forty clasp-knives in ten years, and who died soon after swallowing the last six or seven. Several other gentlemen also mentioned "similar cases."—*British Medical Journal*. [We know of the case of a lady who, somehow or other, swallowed a vast quantity of pins, and for several years afterwards they were continually making their appearance through her skin to the outer world. She did not die through the course, but she sometimes suffered through the possession of the pins and their passage out through different parts of her body.—Ed. I. B.]

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TO LONDON ADVERTISERS.

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NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

Correspondents should send their names and addresses, not necessarily for publication.

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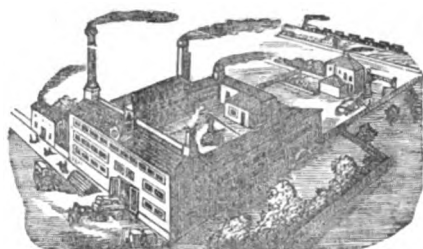
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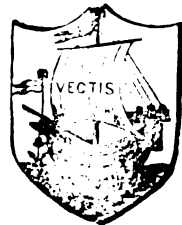
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THE ATHENÆUM

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The Irish Builder.

VOL. XVIII.—No. 387.

Notes on the Early History of the Irish Stage.

THE only history we have of the Irish Stage ends with the year 1774—one hundred years ago and upwards. The author of this history was a Mr. Robert Hitchcock, for several years a prompter at the Theatre Royal, Crow-street, in Daly's

time. He was long connected with the stage, and his wife was favourably known as an actress on the Dublin boards. Mr. Hitchcock's "Historical View of the Irish Stage" was published in two small volumes, issued at intervals—the first in 1788, and the second and smaller volume, after a delay of several years, in 1794. It was the author's intention first to have brought down his history to the year 1788; but, for reasons given in the preface to the second volume of his work, he decided to conclude with the season of 1774. His special reason is thus stated:—"The reason why the year 1774 in particular has been chosen for a termination, is that the season preceding had been remarkable both for its success and excellence, and that the Stage of Ireland had at that time attained a distinguished degree of eminence. For in the choice of a resting-place it is natural to fix on that which affords the fairest prospect." He adds:—"Whether the work shall be thought worthy of further continuance will be a matter for public opinion."

Though Mr. Hitchcock was connected with the Stage for some years after the publication of his second small volume, he never gave the public, as far as we can ascertain, a further essay on the subject, though it is quite possible he left materials at his death for the continuation of the history in question.

In the early "Transactions" of the Royal Irish Academy there is an "Historical Essay on the Irish Stage," by Joseph Cooper Walker, the antiquary, and a member of that body, which partly supplements the account given by Hitchcock, by affording fuller information as far as relates to the first beginnings of the Stage in Ireland. Of both sources alluded to we will avail ourselves, and embody them, with other matter obtainable, for the purpose of affording an insight into the early rise and progress of the Stage in Ireland.

Mr. Hitchcock is of opinion that the period generally agreed upon for the first regular introduction of the Stage in this country was in the early part of the reign of Elizabeth. An abstract, however, from the annals of the city, he reminds us, mentions the performance of some plays in Henry VIII.'s time, before the Earl of Ossory, then Lord Lieutenant, and several of the nobility, in Hoggin-green, the site of the present College-green. Both Mr. Hitchcock and Mr. Walker allow that it is somewhat extraordinary that we cannot discover any vestiges of the Drama amongst the remains of the Irish bards.

The representation of the mysteries and

moralties so common over Europe in the middle ages, and in the sister kingdom, does not seem to have been attempted in Ireland till a much later date. As far back as 1827, these religious representations were enacted in Chester, in the sister kingdom. These plays were little more than representations of matters in the Old and New Testaments, the different trade guilds of the time taking particular parts. The representation of these early plays took up several days, and were attended with considerable expense, and were performed at the cost of the different trade guilds or trading companies. For a comparison we will give the arrangement observed in these early plays in England, and one of a much later date in Ireland.

The first piece of these mystery plays exhibited was the Fall of Lucifer, the characters personated by the guild or company of Tanners; the second, the Creation, by the Drapers; the third, the Deluge, by the Dyers; the fourth, Abraham, Melchisedek, and Lot, by the Barbers; the fifth, Moses, Balak, and Balaam, by the Carpenters; the sixth, the Salutation and Nativity, by the Wrights; the seventh, the Shepherds Feeding their Flocks by Night, by the Painters and Glaziers; the eighth, the Three Kings of the East, by the the Vintners; the ninth, the Oblation of the Three Kings, by the Mercers; the tenth, the Killing of the Innocents, by the Goldsmiths; the eleventh, the Purification, by the Blacksmiths; the twelfth, the Temptation, by the Butchers; the thirteenth, the Last Supper, by the Bakers; the fourteenth, the Blind Man and Lazarus, by the Glovers; the fifteenth, Jesus and the Lepers, by the Corversaries; the sixteenth, Christ's Passion, by the Bowyers, Fletchers, and Ironmongers; the seventeenth, the Descent into Hell, by the Cooks and Innkeepers; the eighteenth, the Resurrection, by the Skinners; the nineteenth, the Ascension, by the Taylors; the twentieth, the Election of St. Matthew, Sending of the Holy Ghost, &c., by the Fishmongers; the twenty-first, Antichrist, by the Clothiers; and the twenty-second, the Day of Judgment, by the Websters. Every piece had its respective machinery, and the actors were dressed according to their ideas of character.

In reference to this country, we find by a record left by Robert Ware, and quoted by Walker, that the representations were somewhat different from those in the sister kingdom. The MSS. of Robert Ware (not Sir James) state that—"Thomas Fitzgerald, Earl of Kildare, and Lord Lieutenant of Ireland in the year 1528, was invited to a new play every day in Christmas [at Christmas time, or during the holidays], Arland Usher being then mayor, and Francis Herbert and John Squire, bailiffs, wherein the Taylors acted the part of Adam and Eve; the Shoemakers, the story of Crispin, or Crispianus; the Vintners acted Bacchus and his story; the Carpenters, Joseph and Mary; Vulcan, and what related to him, was acted by the Smiths; and the comedy of Ceres, the goddess of corn, by the Bakers. Their stage was erected on Hoggin-green, and on it the priors of St. John of Jerusalem, of the Blessed Trinity, and of All Hallows caused two plays to be acted, the one representing the Passion of our Saviour, and the other the several deaths which the apostles suffered."

The banners of the trades of Dublin still preserve in their subjects much of what is related above. The trades still keep to their

patron saints, and what is supposed to be emblematical of them.

From the record given by Ware, it would appear that it was customary with the mayors of Dublin to invite the lords lieutenant to a new play every Christmas time; if so, then, dramatic representations took place in Dublin before the period mentioned. It has been stated also that it was customary in this city at one time with the several minor corporations or trade guilds, to invite the chief governor to a play at St. George's Chapel (the site of South Great George's-street or George's-lane) on the anniversaries of their patron saints.

A MS. is mentioned as existing in Trinity College, Dublin, by Mr. Walker, in which it is stated that in an expedition made against James Mac Connell by the Lord Deputy Sussex in 1557, he was attended by John Usher, captain, and Patrick Balkeley, petty captain, with sixty of the city trained bands; and, upon their return, The Six Worthies was played by the city, and the mayor gave the public a goodly entertainment upon the occasion, found four trumpeters' horses for the solemnity, and twenty shillings in money.

Speaking of these early religious plays, and their representation, they are thus described by Hitchcock:—"The Deity, represented as an old man, first enters, creating the world; that done, he breathes life into Adam, leads him into paradise, and opens his side while sleeping. Adam and Eve next appear, naked, but void of shame at being so; the old serpent then enters, lamenting his fall; he converses with Eve and tempts her; she eats of the forbidden fruit and gives part to Adam; they find themselves naked, and being no longer so innocently unconscious of their situation, seek for a remedy, and according to their words, in the stage direction from the manuscript, look out for *Subligacula a foliis quibus tegamus pudenda*; they cover their nakedness, and converse with God's curse; the serpent exits hissing. They are next represented as driven from paradise by four angels, and the cherubim with a flaming sword. Then Adam appears digging the ground, and Eve spinning. Their children, Cain and Abel, then enter, the former kills his brother; Adam's lamentation; Cain is banished, &c. A strange medley! and sufficient to show us at once both the inclination of the times for theatrical representations, and their rudeness in the execution of them."

These representations were all, doubtless, carried out under the authority of the Church, though long before this the Church fulminated against dramatic representations of another kind, but it is evident the mysteries and the moralities were got up as a counter-blast against profane plays which, at least outside these kingdoms, were put before the public in a very corrupt and objectionable form. It is a query if corruption is not now eating into the vitals of the nation in the matter of stage representation, what is called the legitimate or respectable and refined drama being at discount.

In his essay, Walker said that perhaps he should have commenced his account of the Irish Stage with the rise of the Mummerys in Ireland. Dodsley was of opinion that as bad as the Mummerys were, they seem to have been the true original comedians of England. But Walker held that the Stage rather sprung from than commenced with the Mummerys. The latter writer collected

specimens of the dialogues used by the Irish Mummerys in different parts of this country, and he thinks that these dialogues bear a strict resemblance in point of matter with a specimen of a dialogue of the English Mummerys in the reign of Edward III., which specimen is given by Ritson. The Irish Mummerys appear, as Walker observes, "are always accompanied with a buffoon, whose dress and antic manners answer the description of the Vice of the old English comedies, the precursor of the modern Punch. This character, likewise, appears in the pageant at which the Irish rustics celebrate the first of May." Alas! the May-pole has all but disappeared in Ireland, and the customs associated with it. In our boyhood days, the May-pole of Finglas, County Dublin, was a yearly exhibition that brought many from the city—grave and gay, men and women, corporate magnates and journalists; the once renowned Watty Cox, if we are informed aright, took a great interest in these annual May-day celebrations.

Sir James Ware, the antiquary, enumerates comedies among the amusements got up to celebrate Henry VIII. being proclaimed King of Ireland, but possibly the plays were only the moralities already described. Mr. Walker, writing towards the close of the last century, remarked:—"It must be observed that the vulgar Irish of the present day exhibit in many parts of the kingdom several awkward attempts at comedy at their weddings and wakes, but these attempts cannot be considered as vestiges of an ancient regular drama." He describes some of these pieces, which we will return to hereafter. We have ourselves, in our boyhood days, witnessed some of these rude comedies previous to the Irish Famine period. That sad event and the succeeding exodus seem to have put a complete damper on most of the old customs and pastimes of the Irish peasantry at wakes and weddings, and other indigenous celebrations.

In our next paper we may give an account of some early dramatic representations in this country before the establishment of the regular Stage in Dublin.

TRADES UNION CONGRESS LABOURS.

We have before us some publications of the Trades Union Congress Parliamentary Committee, comprising—a Report of the labours of the Committee in the interests of their Order, for the year 1875; a Report of the Eighth Annual Trades Union Congress, held at Glasgow last autumn; and other kindred papers of the Labour Representation League—a body one of whose objects is to secure a fair Labour representation in the English House of Commons.

Into the details of the political programme of the League we are debarred from entering, owing to the nature of our journal; but with the labours performed by the Trades Union Committee we have much sympathy, and, if not wholly, yet to a great degree we must say that they are worthy of general support. The present Government during last session helped the cause of the working classes in more ways than one; and, though their bills have not gone far enough, those passed by them have given a more secure position to the trade and other societies, the direct offspring of the operative mind.

The report of the Trades Union Congress Parliamentary Committee for 1875 is a very

fairly drawn up report, the work of the committee is impartially stated, and, viewed as a whole, it is free from exaggeration. An epitome is given of the work done by the committee in *re* the Criminal Law Amendment Act, Masters and Servants Act, and Conspiracy. We commented on these acts at the time of their passing, and spoke in their favour. The committee express their satisfaction with the tone of the speeches in Parliament during the passing of them, and bear a tribute to the frankness of Mr. Cross, the Home Secretary, in his dealings with their representatives. A tribute is also paid to well-known trade representatives in and out of Parliament, and to the Press,—though the daily Press in London, as a whole, is charged by the committee as enemies to their cause rather than friends.

The committee advise trade societies to register under the Trades Union Act, and renew their demand for the amendment of the act of 1871. The Friendly Societies Act meets with the concurrence of the committee, more particularly as that portion that dealt with trade societies was eliminated during its passage through Parliament. The question of compensation to workmen for injuries, is viewed as a most important measure; and the committee advise that, during the next session of Parliament, they will act in concert with any other body disposed, so that a satisfactory measure may be obtained. We are thoroughly in favour of such a measure, and consider that workmen are fairly entitled to compensation in case of injury not occasioned through their own fault, but through faulty or defective appliances provided by their employers.

The Patent Laws Amendment Bill, as it affects working-class inventors, is discussed by the committee. The late measure introduced, but withdrawn, possessed provisions which would tend to work much injury to the poor inventor. A cheap and ready means of patenting inventions is advocated, and the committee recommend renewed action in the matter.

An amendment of the Truck Act is sought, and it is hoped that the present Home Secretary will see his way to carry out the desired reform. We have ourselves for years past often pointed out the evils of the Truck system, which still exists in many vile forms over the three kingdoms. On the head of the Summary Jurisdiction of Magistrates, Trial by Jury, and the Small Penalties Act, the committee think that the first thing to be done in this direction is to obtain the appointment of a Royal Commission to inquire into the state of the law and its administration in the above cases. They advise a motion to be brought forward next session for the appointment of a commission, and a memorial to the Home Secretary is prepared by the committee. Co-operation, and what could be achieved by it in the interest of the country and the working classes, is under the consideration of the committee.

This is a many-sided subject, and it requires to be touched upon with caution. In the interest of workmen co-operation is all-powerful, but it is also all-powerful from every point of view. The Factory and Workshops Acts and the Shops Hours Regulation Bill and its surroundings, have received the attention of the committee. While regretting the delay that has arisen in connection with the consolidation and extension of the Factory and Workshop Acts of 1867 and 71 on the general principle laid down in the

Government Factory Bill of 1874, still the committee admit the wisdom of the Government in appointing a Royal Commission.

As far as related to Dublin, we have reported the outcome of this commission at the time, and we commented severally on the evils of the sweating system—an evil whose dire effects we pointed out several years since, from both moral and sanitary points of view.

The committee regret that the commission did not include, during its recent sittings, some one representative of the labour interests comprised in these inquiries; and it is of opinion that great pressure has been brought to bear by employers in neutralising the object of the inquiry. We think, however, that the commission has been productive of much good to the cause of workmen, as in several places startling revelations were made of practices that must be reformed or rather swept away.

Last, though not least, the Merchant Shipping Bill came in for the notice of the committee. The general public are aware that the Merchant Shipping Bill was withdrawn by the Government last session, and that public indignation led to the passing of a temporary measure, for which the country is indebted to Mr. Plimsoll. A comprehensive measure is, however, needed, and the trades societies will have the joint support of the public in any honest action they take in the praiseworthy cause of saving our seamen's lives.

The parliamentary programme of the committee for this year includes the furtherance of most of the objects passed under notice, together with a fresh claim in the interest of their order—viz., the reduction of the qualification of jurymen; to admit workmen to discharge the civic duties of jurymen; and the payment for the duties so discharged. There are difficulties in the way of obtaining this last object, when we consider the position of the workman either in his character of a *bonâ fide* journeyman or foreman. In itself the demand is not unreasonable, though we see obstacles in the way of making the scheme work in a practical and general manner. If workmen were made generally eligible for sitting upon juries, in several instances they would be losers instead of gainers, so far as the relation of employer and employed comes to be considered. Connected with production and the performances of contracts, there are pressing exigencies, and there are laws of contract, and masters and servants, and other agreements which are likely to clash with the carrying out of a law to admit *bonâ fide* working men to sit as jurymen. The demand *per se* is not, as we have already said, unreasonable, but it needs careful consideration. If workmen are eligible to sit in Parliament, it may be argued that they are eligible to sit as jurymen. Granted; but the case is different—widely different—in its aspects. Working men representatives in Parliament are eligible already to act as jurymen, but they cannot attend a session of Parliament and be operatives at the same time in mines and workshops.

For many years to come the representatives of labour, or rather the direct representatives of working men must be very limited in number. We are in favour of Labour representation in the Legislature, but we do not see that any necessity will ever arise for every distinct trade having a parliamentary representative. Working men in

hundreds are yearly rising from the grade of workman to that of employer, and there are several other employers in a small way who are both working men and employers. Already this class of men are constituted jurymen.

Accompanying the report of the Trades Congress Committee under notice, there is a very clear and useful digest of the new Labour Acts, by Mr. Henry Crompton, which will be found of interest to workmen and others. The report of the Trades Union Congress at Glasgow contains much information that will be found of service to writers and advocates of popular questions, as well as to working men.

On a future occasion we may take note of other matters bearing upon the labours summarised above. The literature of the publications and reports enumerated is creditable to the committee of labour representatives from which it emanates.

THE DEATH OF RICHARD ROLT BRASH, ARCHITECT AND ANTIQUARY.

It is with feelings of unfeigned and sincere regret that we have to record in this issue the death of a worthy co-labourer in the field of Irish archæology and architecture. At the comparatively early age of fifty-eight Richard Rolt Brash passed away from our midst, but not without giving evidence of time well spent and labour worthily done in the illustration of the ancient architectural history of our country. Just as we are completing our notice of his recently published able work on "The Ecclesiastical Architecture of Ireland, to the close of the Twelfth Century," comes the sad tidings of his death. For the last quarter of a century and upwards, Mr. Brash's name has been well known as a writer upon archæological and cognate subjects. For several years he has been a member of the Royal Irish Academy, F.S.A. of Scotland, and Fellow of the Royal Historical and Archæological Association of Ireland; and to the "Transactions" of all these societies he has been a contributor.

The study of the ancient architecture of this country, prehistoric and historic, and of her antiquities, has been to him a labour of love; and on the Pagan side of the controversy respecting the origin of our Round Towers, he was a vigorous and able disputant and a clear exponent. In the *Ulster Journal of Archaeology* there are two papers of singular ability—"Notes on the Round Tower Controversy," and "The Belfry Theory Examined." To the Proceedings of the Royal Historical and Archæological Association of Ireland, among other papers, he contributed a paper entitled "The Round Tower and Church of Dysert, Co. Limerick; and to the Proceedings of the Antiquarian Society of Scotland he contributed "The Round Tower of Abernethy, with Drawings," and "Notices Historical and Architectural of the Round Tower of Brechin."

His recently-published volume already alluded to originally appeared, as our readers are aware, under the title of "Notes on the Ancient Ecclesiastical Architecture of Ireland." Of this work we need not speak further, as we have been giving for some months back a very extended notice of it in these columns. In its first chapters we recognised its great merits, and we are

pleased to see that our opinion has been endorsed by recent critiques of the work in our contemporaries the *Athenæum*, *Builder*, *Academy*, and other influential periodicals, professional and literary. It was the intention of Mr. Brash, had he lived, to devote a companion volume to the elucidation of the Pointed styles, as practised in Ireland—a task for which he was well fitted, and towards which he had amassed materials. In our own or other notices of his last published work we are not aware that mention was made that the volume was inscribed to the partner of his joys, who now lives to mourn his loss. The dedication, however, may now be reproduced, for it bespeaks not a little of the feelings of the man—"I dedicate this volume to my dear wife, the congenial companion of many a pleasant pilgrimage in search of the materials from which it has been compiled."

Of Mr. Brash's architectural practice and works we may speak on another occasion in detail. He died at his residence, College View, Sunday's Well, Cork, on the 18th ult., and was buried in the New Cemetery of that city on the 22nd.

Our country can ill spare the loss of men of Mr. Brash's mould of mind. Certain we are, had he lived he would have added a good supplement to the work he had already performed, and have more fully proved to the antiquaries of his country that he was fully qualified for pronouncing an opinion on the ancient architecture of Ireland, having carefully examined her history as existing in her national monuments—

"With a love as strong as the pillar towers,
And deep as the holy wells."

What we have hastily written is but a scanty tribute to one who deserves well of Ireland; but we hope a fuller recognition will yet be given for the national services of Richard Rolt Brash.

CORRESPONDENCE.

HOW THE GAS COMPANY'S DIVIDENDS ARE MADE UP.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Prior to 1865 the cleansing, lighting, and inspection of the city lamps was performed in a proper manner by the Hibernian Gas Company, at an annual cost of about £800, there being then about 3,269 lamps. Now-a-days little boys attempt in some districts to clean and light those lamps which are increased by about 70, are seldom to be seen clean, and a sum of £1,179 0s. 6d. is set down in the last Corporation accounts as *lamp-lighters' wages*, which, along with £378 7s. 10d. for inspectors' salaries, amounts to £1,557 8s. 4d.—quite enough, supposing the work was done and the lamp-lighters got all the money charged to them.

The inspector had also to examine, and certify as being correct, all gas-meters before their being put into use, or against which complaints were made by gas consumers who refused to believe that they consumed or wasted the bulk of gas indicated as having passed through their meters; and the manner in which this inspection was done was forcibly illustrated in the case of the Alliance Gas Company v. Robert Taaffe.

An appeal from the County chairman's decision in that case was heard by Mr. Justice Morris in the Queen's Bench Chamber to-day. In giving judgment, the judge preferred being in open day light, by adhering to the evidence given by the appellant and his witnesses, declined being enveloped in a gas cloud, by the evidence given, and suggestions made on the part of the Gas Com-

pany, and refused "to believe infallible gas-meters or infallible gas-men," meter testers, collectors, or experts, reversed the judgment of the court below, and decided against the Gas Company, with costs.

In thus spiritedly giving the Gas Company, after a long career of questionable dealings, their first public tumble, Mr. Taaffe has done good service to the public; he has established a precedent in our superior law courts that gas-meters are not infallible, or even reliable, instruments, and that the inspection, proving them to be correct, is an illusion and a snare. Those correct instruments that faithfully record without any distinction the bulk of all motive powers passed through them,

Artfully contrived a double debt to pay.
To keep accounts of gas by night, and common air by day.

The result of this appeal ought to cause gas consumers to insist on being supplied with dry meters, the meter in question having been a wet one, and it also has been well proved that with dry meters there can be less trickery.

The secretary of the Gas Company, in his cross examination, is reported in some of your contemporaries to have "denied that there were numerous complaints from the public about overcharges" for gas. This sworn statement, if taken in the present tense, must convey that the consumers have sunk into a lethargy of despair, on discovering the folly of continuing to make such complaints. My experience enables me to state that nearly all the consumers of gas in the city complained of being overcharged for it.

Taking into account the proportion of the salary of the inspector of public lighting which goes to pay him for testing gas-meters and verifying them as being correct, the Gas-meter Department costs the city sums of money, viz., salaries to assistants, repairs, &c., possibly amounting altogether to £500 per annum. More than half the gas-meters sealed in this department are used in the surrounding townships, in Bray, &c. Why, then, are the city rates burdened with keeping up this Hanover-street establishment and staff for doing work, more than half the benefit (if it is any) of which is derived by parties not residing in the city or contributing to the city rates? Or is it done for the purpose of giving large wages (which do not appear under an honest head in the Corporation accounts) to parties for doing next to nothing, and doing that same in (to say the least) a not very creditable manner.

—Yours &c.,

41 Cuffe-street,
28th January, 1876.

JAMES KIRBY.

A "CORK" RINK.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Being aware of the great success of the "Dublin Skating Rink," I, as proprietor of the ponds known as "French's Bogs," which have been frequented upon occasions of frost by thousands of Cork citizens, and wishing to inaugurate a similar source of amusement to that at present so much in vogue in the capital, you, as chief authority in such matters requiring scientific advice as regards construction, materials to be employed, outlay, &c., may probably consider it worth your while to afford me such information as will enable me to undertake a work which I am sure will contribute so much towards the recreation of the citizens of Cork and surrounding districts.—Yours,

EDWARD FRENCH.

Ardmanning, Cork, Jan. 11, 1876.

[Can any of our readers supply the information asked for?—ED. I. B.]

The Grocers' Company have given a donation of £25 in aid of the drawing and modelling classes for art workmen at the Royal Architectural Museum, Westminster.

THE LITERATURE OF GOTHIC ARCHITECTURE IN IRELAND.*

CONNECTED with our Round Towers and early stone-roofed churches there are undoubtedly features which may be traced back to our earliest stone-roofed dwellings. Step by step, from pre-historic to Christian times, we can trace these points of similarity—ancient types of construction modified, no doubt, but nevertheless preserving much of the characteristics of the primitive school. From cave to castle, from oratory to Gothic cathedral, is a long stretch, and comprises many developments of the building art; but, leaving the word "Gothic" aside, and keeping in view forms of construction associated with it, we are fully justified in these papers in treating of the literature of our earliest as well as of our later buildings.

Exception might be taken by some to Mr. Brash calling his work "The Ecclesiastical Architecture of Ireland," because he has gone further back by centuries than the period of St. Patrick, and treated of forms of construction which undoubtedly belong to a so-called pre-Christian age. In acting thus, we are of opinion he acted perfectly right; and, had he not done so, his work would not only have lost much of the interest and value which now attaches to it, but he would have failed in affording satisfaction to his readers when treating of the peculiarities belonging to our Christian churches. No period of architecture can be distinctly treated by itself, without going back to the age that preceded it. In Ireland this rule holds good perhaps to a greater degree than any other, but particularly so in all our architecture, from our early stone-roofed structures down to the twelfth century.

But to return to our early buildings. The term "rath," according to Mr. Brash, embraces a class of works peculiar to the Gaelic race, but they are usually with us circular areas varying from 20 ft. to 300 ft. or upwards in diameter, enclosed by one, two, or three, or even more, concentric ramparts of earth or earth and stone, and having an equal number of fosses. The entrances are built of uncemented masonry, and are lintelled with large slabs of stone; they are generally of small dimensions, not often exceeding 5 ft. in width and 7 ft. in height; they show sloping jambs like the doorways of our Round Towers and primitive churches. These raths are to be found all over this country. Our earliest annals supply us with some information respecting our raths, duns, and other fortresses, and the reader will find a variety of information upon the subject, so far as proving their very great antiquity, in the *Book of Ballymote*; the *Annals of the Four Masters*; the *Book of Genealogies*, by Duaid MacFirbis; O'Curry's *Lectures on the MS. Materials of Irish History*; the *Transactions of the Royal Irish Academy* and the *Royal Historical and Archaeological Association of Ireland*; and in Dr. Petrie's and Sir W. Wilde's antiquarian works. Other works mentioned throughout these papers may also be consulted respecting raths and other pre-historic buildings in this country. The work immediately under notice will, however, satisfy the general reader, for Mr. Brash has certainly given a fairly comprehensive account of our pre-historic and early historic stone buildings.

The class of structures called "clochans" are pretty fully described in plan and arrangement; they are somewhat like the underground chambers of the rath, but they are of various forms—square, rectangular, circular, and oval,—and they are to be found in localities in groups or single. They are built entirely of stone, though some are of stone on the inside, the outside being backed with earth. Speaking of these very remarkable class of structures, Mr. Brash observes:—

* See ante.

"I believe them to be, next to the cashels, the oldest stone-built structures above ground in Ireland. That the old Gaelic builders knew how to spring a circular dome from a square or rectangular substructure, is quite evident from an examination of the clochans on the Arran and other islands on our western coasts, as well as on the mainland." The dome was sprung by a simple but effective form of a pendentive, corbelled from the angle to carry the domical roof. This was one of the modes, but there were other expedients also adopted by the ancient native builders in overcoming a masonic difficulty, which, if not scientifically correct, at least exhibited marvellous ingenuity.

Speaking of "Early Christian Masonry," Mr. Brash writes:—"Whether the use of lime cements was introduced with the Christian faith or otherwise, is a question now difficult to settle; there is no doubt that all our primitive churches, even those of the very earliest period—as Gallarus, Ardmore, &c.,—are built in mortar, of a remarkably hard and tenacious character, shewing that at the remote period when they were constructed the art of making good mortar was well understood—an art that never has been learned in a day, but is the fruit of practice and experience,—an art that has rather declined than improved." Truly the art has declined, but the knowledge to make good mortar exists, if contractors and workmen—aye, and architects—would only act honestly. If there be one thing more scamped than another in building in these days, it is the making of mortar. Blame has often been left upon lazy workmen, but unprincipled builders do not supply the proper materials, so all the "elbow grease" in the world will not temper road mud into good adhesive mortar. If architects would study their clients' interests and the health of the future, there would be less "scamping" on the head of the manipulation of mortar, plaster, or concrete. A builder who is caught in using what is not mortar, or not possessing the constituents of tolerable mortar, should be made to take down the whole of his building, even though he was ready to lay the wall-plate for the roof. The law will support the architect in the action. If this be done, the good mortar of the days of old will be once more seen in use in our domestic and public buildings.

Mr. Brash illustrates several examples of Irish masonry, some exhibiting curious and ingenious modes of construction. In early structures the stones appear to have been of a large size. Mr. Brash is of opinion that "the early church masonry of Ireland cannot be classified by dates, as we find examples reputed to be of the sixth and seventh centuries as well executed as those of the eleventh and twelfth. From a personal examination of a great number of our primitive churches, it would appear that the differences in the masonry arose from the nature of the materials used, as well as from the local skill of the workmen, rather than from the prevalence of any particular manner or fashion in masonry."

The interlocking system which Mr. Brash speaks of in the following extracts has not yet died out among the old masonic craft in this country:—"One remarkable feature in our early work is the custom which prevailed of what I would call interlocking, for want of a more technical term. The old workmen, when they had a good-sized block in hand, having irregular corners, instead of reducing the face to a square or a rectangle, notched out the defective parts into regular angles, and fitted the next stones into them; they appear to have done this from an objection to reduce the size of the material. This description of masonry will be found very generally in our primitive churches, and in the basement storeys of our round towers; some very curious examples are to be met with. Some of the oldest masonry in the world exhibits similar features; the primeval constructions of Greece and Southern Italy, attributed on account of their antiquity to the Cyclops and Pelasgi, exhibit specimens

of masonry identical with that I am describing. This identity has not been as carefully considered as the importance of the subject demands. Mr. Marcus Keane has alluded to it in his *Towers and Temples*, and has given comparative illustrations of both; but, startling as he shews the resemblance of the stone-works of the two peoples to be, in the necessarily limited examples he has given, it will be found far more so when the subject comes to be thoroughly investigated." The subject, indeed, is worthy of fuller illustration, for both in our early church masonry and in our Round Towers we have fine examples of masonry.

Mr. Brash concludes his excellent work with two chapters, one upon "The Gobhan Saor," and the traditional legends associated with that real or mythical personage, the reputed builder, not only of our Round Towers, but the majority of ancient churches and castles. The late Dr. Petrie contended that the renowned Gobhan was a real personage who flourished in the commencement of the seventh century, but Mr. Brash holds, and very truly, that "The myth is far older than the seventh century—most certainly as old as the erection of stone structures in Ireland." The chapters on "The Gobhan Saor" are well worthy of perusal, for mixed up in the account there is much historical matter which is inseparable from the annals of the Irish race.

It will have been seen by those who have followed the course of our papers, that we have given very extended notices of Mr. Brash's and Mr. Wilkinson's works on the ancient and ecclesiastical architecture of Ireland—the first published recently, and the latter thirty years ago. The treatment of our subject demanded it, and we trust that in our remarks we have not been unjust to either authors. Dr. Petrie's work comes within the scope of these papers, but a distinct and extended notice of our late distinguished antiquary's work is not rendered necessary from the fact that incidentally it has been numerous times alluded to in connection with the opinions of other native writers whose works have been passed under review in these pages.

Our Literature of Gothic Architecture is not yet exhausted, though we have treated of the principal authors and professional men in this country who have written from time to time upon the subject. Before proceeding further towards the conclusion of our labour, we shall by way of digression revert once more to the Round Tower theories for the purpose of giving Mr. Brash's views upon the matter, particularly as he has avoided the discussion of the subject in his recently-published work, for the reason that he does not believe that our Round Towers are of ecclesiastical origin.

THE ARRANGEMENT OF MATERIALS IN CONSTRUCTION TO PRODUCE SATISFACTORY EFFECTS.*

(Concluded from page 26.)

THERE is another class of stones, too costly to be largely used, and more adapted for interior than exterior work, especially in this dripping climate, where the rough-hewn seems more appropriate than the highly-finished, yet of considerable value, nevertheless, as accessories to the general effect—namely, the various coloured marbles. Of these I prefer to confine myself to the native specimens, some of which, through the courtesy of the Messrs. Robinson, of York-street, I have now before me. There is, first, the red, or red and white, from Cork, and two specimens of dark green from Galway. From the same county also comes this black specimen. Then there are these greys—the purplish-grey, or Irish St. Anne's, and the fossil marble, which is also in general a pure grey. The Armagh marble is a mottled pink and sienna colour. I have also seen several

* By Mr. F. W. Lockwood. Read before Belfast Architectural Association, on the 3rd ult.

specimens of a white marble from Galway, from a quarry recently opened—some almost pure statuary, and others more or less of a greyish tinge, but for architectural purposes white.

Now I do not, so far as my own tastes go, recommend the facing of our buildings with marbles after the old Venetian fashion, but I think we can find some uses for them. For instance, in the tympana or spandrels of windows, and especially of doorways, in panelling under windows, between the cantilevers or consoles of cornices, and in medallions, at moderate expense, polished marbles could be introduced with great value to our street and other architecture. The field for their employment inside is, of course, unlimited, but into that it is not my purpose at present to enter. One of the buildings of which Belfast, a city of merchants and manufacturers, has just reason to be proud, is the pile erected several years ago as a warehouse for Messrs. Richardson, Sons, and Owden. It is built entirely of Dumfries stone, and it is obvious that the architect has deliberately and intentionally avoided anything like a variety of colour, and aimed solely at a simple dignity of effect as being most in consonance with so large a building devoted to purposes of commerce. Without saying anything in derogation of these intentions of the designer and the result which he has achieved, it may, nevertheless, be instructive to consider for a moment how the same design could have been treated otherwise with respect to colour. The basement and principal storey might have remained of red stone, as at present, the upper storeys having a good deal of Cookstown stone or Armagh limestone introduced. Leaving the cornice, however, of Dumfries, the polished window and door shafts might have been either of the lightest grey granite or, if obtainable, of dark-green marble. The beautiful carved medallions just above the basement could have polished green marble fitted round the carving with a fine ring of white, to separate it from the red stone, and accentuate both of them. The introduction of green slates in the roof and turret roofs, and bands of the same in the main dormer with a red clay ridge, would then further assist the colour effect. The medallions of the piers of the front railing would in harmony be filled either with green or light grey fossil marble, or a contrast be produced by a circle of white. I do not say that this would be a better treatment than the one adopted; it is at any rate a possible one. In smoky and large towns like this we need not fear the use of bright materials—they will tone down soon enough. Out in the country we may sometimes have to be a little more moderate, perhaps.

In these northern climates the roof forms a more conspicuous object, and is, architecturally, of more importance to the design than in sunny regions of almost perpetual summer, and ought not, therefore, to be left, ornamentally speaking, to shift for itself. Here by far the commonest material of covering is slate. There are the Bangor purple and blue, and there are several varieties of green slates. Much less attention has been paid in Belfast than might have been to the judicious selection and combination of these as regards colour effect, though more has been attempted in that way of late; but the tremendous price of slating, owing to strikes and the greatly increased demand from the Continent, makes it difficult for the architect to pick and choose in the matter of slates. He begins to feel that he must take what he can get, and be thankful. Still, a little expense saved from bad carving and given to so important a feature as the roof, would well repay the architect. The new church at Carlisle Circus and the Children's Hospital at the Throne, with some other buildings, are examples of the successful treatment of slating as regards colour. Turret, dormer, and bay window roofs will well repay a little thought and care; they are to the main roof what the door is to the main front, just the point to be accentuated by a little ornament and a happy bit of colour.

Tiles ought to be far more used in Belfast than they are. There are flat tiles, glazed and unglazed, and various overlapping forms. St. Enoch's church is an example of a building which gains a good deal of warmth of effect from its tile roof; a broad expanse of blue or grey slate would have been somewhat cheerless in its appearance. On old roofs in the eastern counties I have seen some marvellous effects of colour from the common pan-tiles, their bright vermilion red broken through dark velvet moss and yellow lichen; and the old tiled roofs of English towns are never-ending treats and sources of study to the artist. The English red ridge tiles also deserve more patronage than they have received from us. Zinc and lead are not of much use for colour, but effect may sometimes be gained by more study of form in ridges and flashings. If a zinc or metal ridge is to be painted, there is no necessity to paint it slate-colour. Venetian red, or chocolate, with a vermilion edge, would give more character, and suit both with slates and skyline. Copper is a splendid covering, and for some small roofs should be more used. When oxydised, it forms a fine termination to a spire or turret covered with purple slates, or to a wood dormer, or in many other places.

Woodwork plays an important part in our architecture. Its natural colour varies from a very pale yellow through various warmer tones to a rich brown. Its weathered colour is a cool grey, but this it rarely acquires, owing to the universal custom of protecting it with paint or varnish. Varnish leaves the wood its natural colour, slightly darkened; and a moderate amount of stain is, I believe, legitimate if the rest of the building requires it. In treating the varnished woodwork, an edge or scotia here and there might be heightened by a line of Venetian red or vermilion, and the same in the finishings of the windows. In treating of woodwork, one is naturally led to the half-timber structures now so much revived in England, and some modifications of which might be introduced here. The warm coloured wood framing, the cool grey plastering, the brickwork of the sub-structure carried up into the chimneys, and the tiles of the roof—all give a charm which it is hard to equal in plain stone, brick, and slates. A very good treatment would be a brick basement, with stone and coloured brick bands and timber quartering above, filled either with brick built in Portland cement or coated with the same, and the tympani of the gables, where sheltered by the projection of the roof, filled with grey finish plaster. I saw recently in Chester some beautiful grey tones produced by this plaster stamped with the ornaments so familiar to you through the drawings of Norman Shaw and other masters of this style. Another mode of treatment of a Portland cement coating, instead of the wretched imitations of cut stone, of which we have all been guilty, which has been suggested to me by one of our leading practitioners, is to build a framework of brickwork set in cement, and to coat the thinner brick, filling in with the cement, decorating the panels so formed with stamped ornaments, thus producing more liveliness and contrast of colour, and boldly acknowledging to the world that this is a brick building, coated for dryness with that admirable damp-resister, Portland cement, and having the characteristics of such a building, and no other—not a shabby-genteel imitation of a nobleman's marble palace from Rome or Venice. Encaustic tiles and terra cotta would find their appropriate place in such a building. Of course the architect would have first to see that the Portland cement was really a first-rate article, and properly applied; and, having accomplished that, he would then have to bind his client over to keep the iniquities of the paint-pot off the building for so long a time, at least, as both of them continued to walk in body upon this mortal earth. Cements and plasters, being always composed of so large an admixture of sand, their colour can be considerably modified by the sand we may select. In general the cooler greys are pleasanter than the warmer

tones for plasters, especially if we can break them up with positive warmth of colour in pieces of brickwork, &c. The painting of cement and stonework is generally a sacrifice to the inherited Anglo-Dutch seafaring notion that houses should be washed down, in and out, once a week, and that the scrubbing-brush will have at least as much to do with the conversion of the world as the Scriptures. It is, at any rate, a work for shopkeepers, not architects. New buildings always have an uncomfortable look, like a man in a new suit of clothes, to the shape and feel of which he is not yet quite accustomed; and when a few years of rain and sunshine have given the natural look of an old friend, lo! down comes the painter with his pots and ladders, and makes everything new again.

Glass plays an important part in the effect produced by the façades of nearly all our buildings. It has partly a colour of its own, and partly the reflected colour of the sky and other objects, thus giving us our highest lights, and partly by its transparency gives us glimpses of the colours of the interior. By the latter quality we get help from the colours of blinds, curtains, Venetian blinds, shutters, &c., and a little more might be done in the painting of these than sometimes is. The English architects are introducing everywhere toned and tinted glass into the upper part of their windows, the lower portion being left clear to see out of—a most rational and healthy custom, which I hope to see introduced here. I mention it at this time, because it gives to the glass just that broken effect, half light and half colour, which our elevations want.

In treating of the subject of colour, as regards the architecture of our streets generally, we must bear in mind that we have to deal with a smoke-laden atmosphere, generally saturated with moisture, and that the less our materials are retentive of these the better. Freestone suffers most, then brick, though bright-coloured brick retains its colour even under these circumstances for a long period. Granite, when finely chiselled, and especially when polished, and polished marble, with encaustic tiles, fine terra cotta, slate and glass, must form the material of our streets. I have not touched on iron, because that would be to intrude on the province of the decorative painter. Instead of the eternal cement, I could wish that granite shop storeys, with good red brick above, were more frequent. A shop front, with massive grey granite piers at each side, with polished faces, metal columns between, painted warm chocolate colour, mahogany sashes, a metal girder to show as such, with either panelling filled with encaustic tiles, not too gaudy, or else a decoration of its own, and a judiciously designed superstructure, of which red brick was the leading feature, with, perhaps, an arcade of polished marble or granite columns for the windows, with a scrap or two of really good carving, such a front having some terra cotta and a marble medallion worked into it, would be a creditable piece of architecture, and a dozen such would go far to make some of our leading streets worth looking at.

There are many difficulties in the practice of the architectural profession. An architect is a man who rarely has an opportunity of pleasing himself. In a rising town like this, too frequently those who come to the architect to get him to help them in spending their money are those who have found themselves by experience to be smart fellows, and have acquired a by no means unreasonable confidence in their own acuteness—self-made men, in fact, who pride themselves on knowing nothing about Art, but also in “knowing what they like,” and they often turn out rather intractable; so we must not blame the architect if his work does not turn out invariably a success; nevertheless, I think in this matter of colour in building there is room for a little improvement, and if I can persuade any of you, and especially my friends and comrades of the rising generation, to give this subject a place in their thoughts, I shall feel that this paper has not been written in vain.

HINTS FROM AMERICAN PRACTICE.*

A WRITER in the *Times* a few years back, remarked on the cosmopolitan character which attaches to some professions as compared with others that are of necessity more localised. As instances of the latter he adduced the law, which, however brilliant may be the prospects it holds out to its successful votaries, has its fields for exertion limited by the differing systems of jurisprudence which prevail in different countries. A Dublin barrister or solicitor, if obliged to transfer his sphere of practice to New York, or even to Quebec or Melbourne, would find a large part of his knowledge and experience of little use. Not so, however, with a physician or surgeon, whose knowledge of the human frame and its ailments would be of equal service in any part of the world. These latter professions accordingly are classed as cosmopolitan, and in the same category the writer above mentioned reckons our own and the kindred one of the engineer. As the laws of matter and motion, and the principles of taste are the same all over the world, the architect or engineer, provided he be originally possessed of adequate capacity, will be in no way disconcerted by having a new field of practice open before him, but having devoted a brief space to acquire a knowledge of the local materials, will find his old training and experience of the fullest value in enabling him to utilise them. Differing requirements of climate and custom, so far from being obstacles in the way of a competent architect, will rather suggest to him new modes of construction and forms of design, and make it less difficult for him to achieve something novel, than where the conditions to be observed are unvarying. And it is hard if the practice of architects who have thus laboured to transplant European architecture to the soil of other continents, does not suggest to them at least some few ideas which might with advantage be engrafted on home practice also. It is the consideration of some such, suggested to the writer during nearly three years' residence and practice in the United States, that your attention is invited this evening.

In a former paper on American Architecture, I referred to the fact that American town houses formed by far the most satisfactory class of buildings to be seen on that continent. The conditions of social life which prevail there have led to their development to a greater extent than is now usual in most of our cities, and may be compared in their results to those which at one period of our history caused Dublin to be filled with stately town mansions, now, alas! deserted by their lordly occupants, and relegated to the uses of schools, warehouses, charitable institutions, and government offices. The town houses of the American cities are nearly on the same scale as these once aristocratic mansions of ours, but are finished and fitted up with a modern completeness fairly commensurate with the general advance in the industrial arts, which the world has made in the interim. One of the most noticeable features about them (which applies also to other classes of building) is the completeness of their systems of heating. This has doubtless been enforced by the rigour of the climate in winter, and necessity has proved here, as in so many other instances, "the mother of invention." Compared with the imperfect and wasteful manner in which our houses and public buildings are warmed, one is led to the conclusion that the mildness of our winter has allowed us to fall into utter supineness and neglect on the subject. And yet we have plenty of cold and, what is worse, damp weather here to make it important for us to attend to it. What can be more preposterous than to find the halls, staircases, passages, and often the bedrooms of a house or hotel destitute of any provision for warming them, and consequently filled

with as cold and damp an atmosphere as prevails outside, while a few of the living rooms are warmed by open fireplaces only, which just give a comfortable seat or two in their immediate vicinity—the traditional "chimney corner,"—and which are certain to draw powerful currents of cold air towards them whenever the doors are opened? The effect of this defective system, or rather want of system, is seen in our internal domestic architecture, which is cramped or confined as compared with either American or continental European. Our doors are miserably small, and have to be placed in lop-sided positions, with a total disregard of symmetry. Draughts have to be guarded against by frequent cross doorways, and the most careful adjustment given to the relative positions even of articles of furniture in the rooms, as may be seen by the planning in Professor Kerr's "Gentleman's House," simply to make what was originally had tolerable.

Now, in the American houses and hotels, the moment one crosses the threshold he enters a mild and equable temperature, which pervades every part of the house, and permits the internal doors all through to be left open or shut independently of any considerations of temperature. It also permits of much more spacious and symmetrical doorways being used than with us; and, in fact, one of the most striking features to a British islander on his first arrival is the superior dimensions and elegance of the doorways, which are generally 9 ft. or 10 ft. high, and 6 ft. or 8 ft. wide, circular-headed, in two leaves, either folding or sliding. The details of the methods by which this equable temperature is maintained vary somewhat, and to discuss them properly would require a volume by itself. Vast advances have been made in them during the last few years, so as to obviate most of the objections which have caused so much prejudice to exist amongst us against any other system of heating but the open fireplace. For example, some years back the use of stoves in American houses was very general, somewhat like those we see still on the continent of Europe, the dry sulphurous heat evolved by them was very disagreeable, and they were denounced by Mr. Anthony Trollope and other English travellers as being the chief and, as he calls them, "accursed" means of destroying the complexions of the American ladies. Be that as it may, such stoves are no longer to be seen in well-appointed American houses. They are now heated either by a hot-air apparatus on the basement, or more commonly in the "sub-cellar," communicating by means of flues with openings into each important room, or else by steam; not so often by hot water. In fact, steam heating seems to have been brought to greater perfection there than anywhere else I know of, and as it admits of much smaller pipes being used than with water, and does not take so long to circulate, it possesses great advantages, and is well worthy of further attention at this side. The chief volume of heated air is arranged to be thrown into the halls and passage (the coldest parts with us), and in order to its diffusion to any rooms which may not have special connexion with the apparatus, such as smaller bedrooms and closets, fanlights moving on hinges are placed over all the doorways—an arrangement equally serviceable for diffusion of light as well as air. The upper panels of doors are also very often of ground plate glass, in ornamental patterns, which is not only very elegant in appearance, but secures that the corridors and passages enjoy much better light than they would otherwise have. The halls, stairs and passages are handsomely furnished and carpeted, and are generally quite as agreeable lounging places as the sitting-rooms, to which they are thrown open by the large folding doors already referred to, to a much greater extent than prevails with us.

A comparison of the plans of some American houses herewith submitted, and an inspection of some of the details of internal doorways, will show the operation of these causes. Under a mode of heating by open fireplaces

only, such plans and details would be inadmissible; but when once a proper system of general warming is applied, the architect is at liberty to deal with his internal plan and details in a much more symmetrical and spacious manner than before.

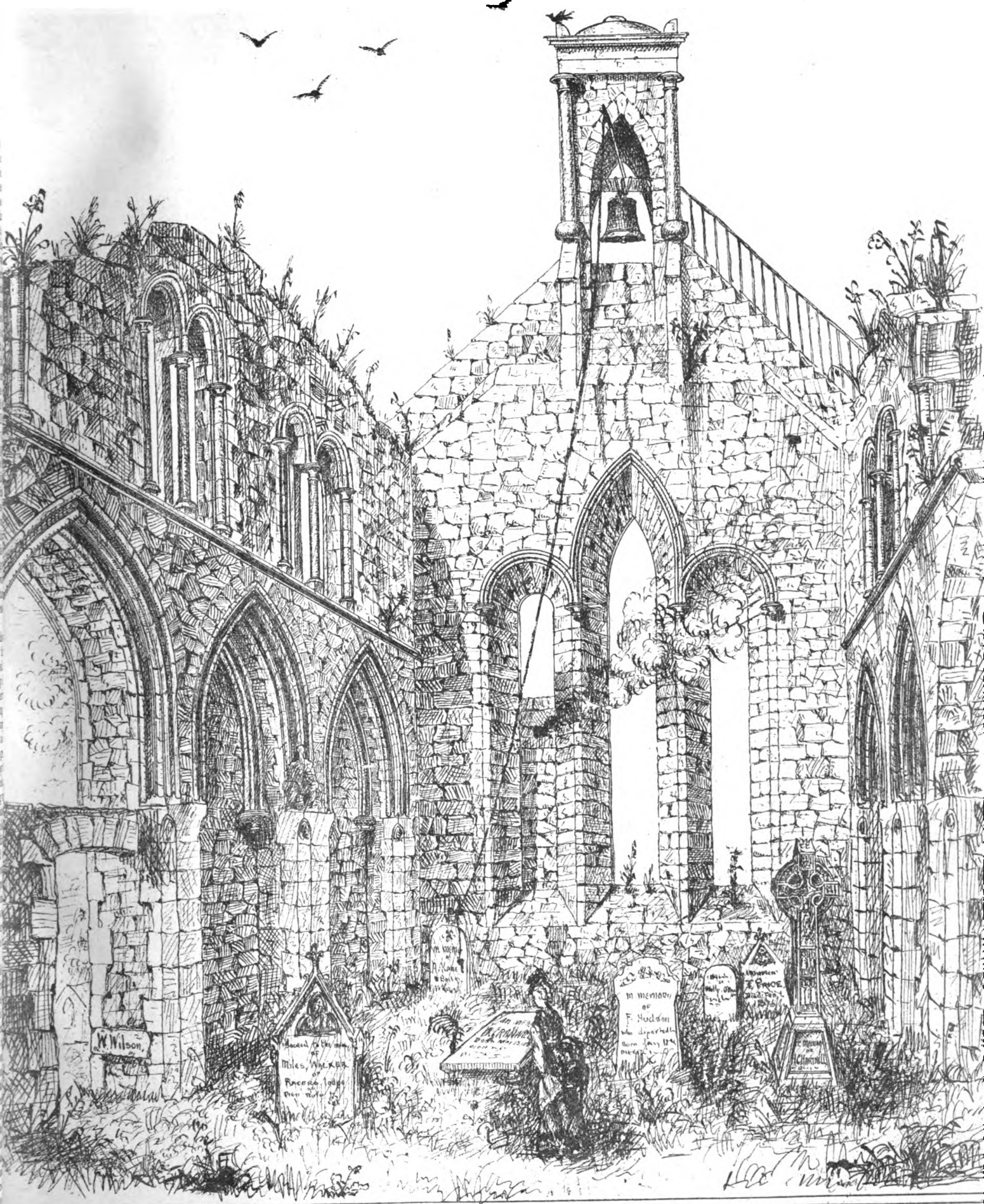
It will be observed also that the open fireplace is still retained in the principal rooms; nor do I by any means advocate its discontinuance. I regard it, however, as a useful supplement to a more comprehensive system of heating which ought to be contrived for every well-planned dwelling house or public building. And no such system should be adopted without at the same time arranging for a complete system of ventilation.

The next point to which I shall advert is the extent to which plumbing and engineering are applied to buildings, and especially dwelling houses, so as to obviate the necessity for a large number of servants and the use of detached pieces of crockery ware in the bed and dressing rooms. To this, too, the Americans have been led by the difficulty of procuring competent domestic servants. This is indeed the great trouble of American housekeepers, and drives so many respectable people to live into hotels and boarding-houses rather than in their own homes, but besides this it renders it important that houses shall be contrived so as to require the least possible number of servants to attend to them. And I am not clear but that we are coming to a similar set of conditions here. The cost of domestic service has largely advanced with us during the last few years, and still the complaint of householders is that really good servants are hard to be obtained at any price. In the mean time great advances have been made both with us and the Americans in the mechanical arts, in plumbing and engineering especially, and all our great cities are now blessed with abundant supplies of water; so why should we not advance with the times, and cease to entail upon our housemaids the necessity of carrying water, and filling and emptying ewers and basins by hand, which can all be accomplished almost instantaneously by a few simple and well understood arrangements?

In every well-appointed American house each bedroom or dressing-room has a fixed basin-stand (and often a bath) provided, to which hot and cold water are constantly laid on. Besides the constant saving of service effected by this, there is a great saving of time and increase of comfort, and the supply is much more plentiful than when it has to be brought up by hand. There is also a great saving in furniture, and I venture to say the cost of detached basin stands and crockery ware all through a house would go a long way to defray the expense of fixed appliances such as the Americans use. The completeness and elegance with which they are fitted up leaves nothing to be desired, and the regularity with which they work, even through the hard frosts which prevail there, prove conclusively the high degree of perfection to which they have developed the plumber's art, and should encourage us in the endeavour to introduce such an obvious and desirable improvement here.

While referring to furniture, I am led to notice another particular in which American houses furnish us with a useful hint, namely, that a large number of things which with us form separate and cumbersome pieces of furniture, costly in themselves, difficult of removal, and often impossible to arrange comfortably in a room, are with them planned and built with and into the house. Of this class especially are bookcases, sideboards, mirrors, presses and wardrobes, plate-chests, and ice-boxes or refrigerators, which, when thus contrived, can be fitted into numerous spaces otherwise likely to be wasted, and can be also, and are in America, designed and executed in harmony with the general finish of the interior of the house. Now surely this arrangement is well worthy of imitation. What can be more absurd than, when once the architect has issued his final certificate and the builder has departed, to see huge vans disgorging loads of heavy articles

* By Mr. William Fogerty, F.R.I.B.A. Read at ordinary general meeting of the Architectural Association of Ireland, 27th January, 1876.



Abbey of St Mary & Traigue : C^o Cilceňy :

of furniture at the door of a new house, often utterly out of character with its architectural style, and often also impossible to be fitted into the rooms, without blocking up doors and windows, while numberless tidy recesses remain in the mansion blank and bare, which, by a little judgment and forethought, might be handsomely and neatly fitted up so as to dispense with the necessity of heating in these huge and unwieldy masses? I believe true economy in this case, as in the last, is decidedly in favour of the American practice, and the possibilities of artistic effect and completeness even more strongly so. Great variety and symmetry can be given to the forms of rooms by the judicious planning of such things as I refer to, which, as they will be required sooner or later, might as well be designed and arranged by the architect, and executed under his direction, as ordered from some cabinet-maker independent of him, and often totally at variance with the character of his building.

(To be continued.)

THE ARCHITECTURAL ASSOCIATION OF IRELAND.

AN ordinary general meeting of the above was held on Thursday evening last, the 27th ult., Mr. W. J. Fennell, R.E.D., being in the chair.

The minutes of the previous meeting having been read and confirmed, Mr. Wm. Fogerty, F.R.I.B.A., read a paper entitled "Hints from American Practice," which we give on another page. The paper was illustrated by an extensive series of drawings, photographs, and publications treating on architectural subjects.

Mr. J. L. Robinson, in proposing a vote of thanks, regretted that a larger number of the members had not availed themselves of the opportunity of hearing Mr. Fogerty's valuable and interesting paper. With reference to the planning of dwelling-houses in America, he should say that, judging from the drawings exhibited by Mr. Fogerty, which showed the houses to be of great depth in proportion to their width, the central rooms would be rather deficient in light and ventilation. As to the general heating of houses, he thought it was most desirable; but in this country there is a sort of prejudice against anything in the shape of hot air or steam, it being (whether erroneously or not, he was not prepared to say) deemed dangerous and uncertain. He also approved of the system of constructing large pieces of furniture, such as wardrobes and presses, simultaneously with the erection of the house.

Mr. A. W. Robinson, in seconding the vote of thanks, considered that the heating of dwelling-houses by means of hot air, &c., would only be satisfactorily accomplished when the houses were specially designed and constructed. One of the objections to introducing a system of hot air or water pipes into the dwelling-houses of this country is their unsightliness; but, with the highly-finished workmanship described by Mr. Fogerty as usual in American houses, he had no doubt that these pipes could be made rather ornamental than otherwise.

The chairman, in putting the vote of thanks, said that the American system of having the fine joinery-work executed by skilled cabinet-makers must be, he thought, very satisfactory; and that the American practice of constructing doors, wainscottings, &c., of such woods as polished walnut and rosewood, and having the furniture of a very tasteful pattern, would, in his opinion, add greatly to the internal finish of the house, although such materials would not suit for the general utility of houses in this country.

The vote of thanks having been put to the meeting, was carried unanimously; and

Mr. Fogerty, in returning thanks, observed that the objection as regards deficiency of light and ventilation in the central rooms of the houses of which he had exhibited plans, would not be of any weight in a climate like

that of America, but would be very material in this country. With reference to the systems of heating by hot air or by steam, he thought there was no danger if the apparatus were designed on proper principles, and the workmanship good. In conclusion, Mr. Fogerty hoped that the Association would open a friendly correspondence with the Institute of Architects at New York, for the purpose of interchanging proceedings—a course, he thought, that would be found of much benefit to both societies.

The proceedings then terminated.

BELFAST IMPROVEMENTS.

THE Corporation of Belfast, which is constituted the Urban Sanitary Authority, are empowered now, in pursuance to a notice published within the last few days by the Local Government Board, to make regulations fixing the number of persons who shall occupy a house, or part of a house let in lodgings, or occupied by members of more than one family; for the registration of all houses let or occupied in lodgings; for the inspection of their houses, and the keeping them in a cleanly and wholesome state; for enforcing that there should be appliances for cleanliness and ventilation in proportion to the number of lodgers or occupiers; and for cleansing and lime-whiting such premises at stated times. The Sanitary Authority is empowered to enforce the regulations which may be framed by penalties not exceeding 40s. for each offence, and an additional penalty not exceeding 20s. for every day during which a default in obeying such regulations may continue.

The "Northern Athens," as appears from a report of the Borough Surveyor, Mr. Montgomery, C.E., continues to make great progress. The number of houses built last year in the town (or rather, shall we say, city) was 980. During the last fourteen years about 17,000 houses have been built; the annual increase of the population is put down at 6,000, the total population being 200,000. Last year £22,000 was expended on main drainage, making, together with what has recently been expended, a total of £40,000. The sum of £13,500 was expended in paving three of the chief streets. Seventy-nine private streets have been sewered and paved, several footways were flagged, a number of streets widened, some under "provisional order" through the Local Government Board. In the matter of public buildings, markets and slaughter-houses have been extended; and improvements have been effected in the two public parks, quays, borough courts, corporation buildings, and a chapel has been built in the cemetery. Cabmen's shelters have been erected by private persons, under the direction of the surveyor; and coffee stands and drinking fountains. The widening and improvement of the harbour, quays, and docks are proceeding, at a large cost, under the Harbour Board. We understand that the registered tonnage of the port for the past year amounts to 1,434,754 tons, being an increase of over 129,000 tons. The export of iron ore was 55,498 tons, being an increase of over 22,000.

We wish the same public spirit and evidence of progress were exhibited in Dublin by our local authorities.

AN ICE RINK.

A NEW and startling sensation awaits the pleasure-seekers of the ensuing London season. Roller-skates and the like are quite thrown into the shade by a perfect sheet of solid ice, maintained constantly at a low temperature so as to bear skaters all day and all night long if necessary. For five or six years Professor John Gamgee has been working incessantly at the economical production of artificial cold as applicable to fresh meat preservation, and this has led to so remarkable a control over temperature as to provide a remedy for the evils of asphalte and roller

skates. On January 6th he completed a rink of modest dimensions, but which has since afforded pleasure to some scores of skaters. The frost set in just as the rink was completed, and the thermometer registered under the shed when the ice was laid 35° Fahr. in the daytime, but as low as 19° Fahr. in the night. Since the ice is formed artificially from below upwards the difficulty to contend with at first was the simultaneous freezing of the double layers of ice which, however, soon joined, owing to the more intense cold from the machine below. A thaw soon set in, and whereas it took from two to four hours to get a good surface in frosty nights, with warmer weather and ready surface evaporation one hour then sufficed to get a renewed layer of glassy ice.

Very interesting experiments were performed by cutting deep holes in the ice, and pouring boiling water in the wounds, which instantly healed by what a surgeon would call the formative process. The air, too, night and day for the past fortnight, has hovered between a few degrees above freezing and as high as 50s Fahr.; and by a system of overhead cold accumulators, in spite of these high temperatures, the refrigerating machine has been stopped as long as from Friday night to Monday morning. On two occasions only, owing to the work in progress, has the slightest thaw been seen on the surface of the ice, and on one of these our informant happened to be present and saw that whilst a thin film gave way during some alterations to the pumps, so soon as the circulation started the surface dried up promptly and became covered with a rime from condensation of the moisture from the atmosphere.

The skaters, members of the London Skating Club and others, have pronounced the ice to be the hardest and best that they have ever tried, and this is not to be wondered at when it is considered that a layer from 1½ in. to 2½ in. thick can be frozen by Mr. Gamgee's uncongealable compounds at temperatures varying from 20° to 30° below freezing point. The ice machine itself is remarkable for a condenser which enables one to work with only five gallons of ether in a machine which in a few hours lowers between three and four tons of liquid from 45° or 50° Fahr. to 0° Fahr. At present it is working at a vacuum of 24 to 25 in., but in his numerous economies the inventor believes he has at last superseded expensive air-pumps. The present engine at his ice-works, King's-road, Chelsea, adequate to work machinery to make over ten tons of ice daily, consumes just a little over one hundredweight of coal per hour, and a very extensive "Ice Rink" can be maintained with half this expenditure of fuel.

In a sanitary point of view, Mr. Eassie reports that repeated visits made by him indicate that the ice has no tendency to produce cold injurious to the feet. The ice is itself never above 32° Fahr., whatever may be the temperature of the uncongealable liquid below it, and the tendency is to dry the warm air above without producing any unpleasant or even appreciable cold sensation. In a closed apartment, with roof ventilators to remove promptly all hot and foul air, the rink can at all seasons be cool and comfortable without any draughts. If the ice were in the roof of the building, the cold would be unbearable, but from below upwards its effects are practically nil. There is no dust, no dirt, no sloppiness, and no unyielding material to fall upon, like asphalte. Some out of the scores of people who have tried this ice have fallen without sustaining the slightest bruise or uncomfortable shock.—*Sanitary Record.*

THE ABBEY OF ST. MARY, GRAIGUE, KILKENNY.

WITH this number we give a sketch of the ruined Abbey of St. Mary, at Graigue, Co. Kilkenny. We are obliged to hold over a description of this interesting specimen of the work of the Cistercians in Ireland until our next issue.

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

MORE efforts than is generally known were made towards the latter end of the eighteenth century and to the commencement of the present, to establish exhibitions and found institutions for the cultivation of the Fine Arts in Ireland. Most of these efforts, however, were short-lived. In 1764 Irish artists associated and erected a building, still standing in South William-street, corner of Cop-pinger's-row, called the "Exhibition Room," subsequently the Assembly House, where the Corporation used to meet. Joseph Cooper Walker, the antiquary, and author of "Historical Memoirs of the Irish Bards," published an essay, entitled "Outlines of a Plan for Promoting the Art of Painting," &c. Mr. Walker was a member of the council of the Royal Irish Academy, but he was no artist, as far as we are aware. In the *Anthologia Hibernica* for 1793, there are some laudatory verses addressed "To Joseph C. Walker, M.R.I.A., and Member of the Academies of Perth, Cortona, and Rome, on his Return from the Continent." The lines bear no signature, but the present writer is of opinion that they were written by the unfortunate Thomas Dermody, a frequent contributor to the publication in which they appeared, as well as the youthful Thomas Moore. The verses addressed to Mr. Walker conclude thus:—

"Not to the social range confined
Your noble energy of mind,
Revised the harmony of Tumor's Hall
(Silent for many an age),
And, in the classic page,
O'er her fallen poets dung a richly-figured pall.
Why need I sing the plans thy genius drew,
To rouse their slumbering sister at the view?
What scenes to charm her from the tomb,
What spells to break her cloister'd gloom!
O, may thy public spirit, fraught
With all that Florence knew and taught,
With all that Buonarrotti dar'd,
With all of heaven that Raphael shar'd,
With Guido's grace, and Rosa's fire,
Brood o'er the formless mass,
The mighty outline taste,
And bid the glowing seeds of genuine art conspire!"

Joseph Cooper Walker, though he certainly did some useful work, in the light of the present day he appears to have been a much over-rated man.

Apropos. About the year 1792-3 a design was conceived in Dublin, and carried out to some extent, under the title of the Irish Shakespeare Gallery. To summarise from the prospectus or outline, it was intended to paint seventy-two or more pictures all of one size. From these, seventy-two engravings, all executed in stroke, were to be taken, two of which and one play were to constitute a number, the price thereof to subscribers was set down at one guinea each. The text of Shakespeare was to be accurately printed in type on paper of the most beautiful kind. The exhibition of the Irish Shakespeare Gallery opened with eighteen pictures, the subjects being from different scenes in the several plays of Shakespeare. Some of the artists were Irish, others were English who had practised here for a while, some more do not seem to have ever practised in this city. The artists included the names—Peters, Wheatly, Northcote, Hamilton, Fuseli, Opie, and Williams. Some of the artists mentioned were down for painting two or more pictures. A native critic at the period mentioned, in writing in favour of the above design, said—"To publish a more elegant and correct edition of '*The Great Poet of Human Nature*' than has hitherto appeared, is of itself a meritorious undertaking, and is entitled to public encouragement; but when a more extensive object is in view—that of laying the foundation of the 'School of Painting' in Ireland—it would be an insult to an enlightened nation to entertain a doubt of such a noble design failing from want of patronage. It is true a Stuart formed a fine collection of paintings, now, indeed, dispersed; and we can still boast of a Charlemont and a Moira; but a public collection, to which the aspiring young artist could resort when opportunity served, was

still a desideratum. This is now in part attained, and eighteen pictures are at present to be seen at the Irish Shakespeare Gallery, which would shed a lustre on any collection in Europe." Shortly after we hear of five more pictures being added to the exhibition, and that the list of subscribers was daily increasing, and shortly again we hear no more. It would appear the success of Boydell's edition of Shakespeare stimulated the effort in Dublin, and a desire existed of eclipsing that work on the score of uniformity and in other ways. As early as 1793 from ten to fifty guineas premium was said to be given for an early impression of Boydell's Shakespeare, and the promoters of the Irish Shakespeare Gallery doubted not but the case would be similar with their intended magnificent edition. Other efforts made in Ireland for the encouragement of the Fine Arts in past years, were recently noticed in the IRISH BUILDER.

Has architecture anything to do with dress, or dress with architecture? The height and width of doors have, in different times, been regulated with a view to admit ladies with ease, if not gentlemen. When hoops were in fashion a hundred years ago or upwards, ladies were advised, when the play was at a Dublin theatre for a charitable purpose, not to come with hoops, as the proceeds were likely to be less, as one person with hoops on took up the place of two or more, or rendered ingress and egress difficult. From the days of the prophet Isaiah down to our countryman Bishop Berkeley, extravagance in dress has been fiercely denounced, and, we fear, with small effect. Since Berkeley's time the evil has increased. "It cannot be denied," says Berkeley, "the luxury of dress giveth a light behaviour to our women, which may pass for a small offence, because it is a common one, but is in truth a source of great corruption." Berkeley, in several of his miscellaneous writings, denounced extravagance in dress. The words, however, of the prophet Isaiah ought to be printed in large type, and posted in every church in the three kingdoms, until a reform was visible. Listen to the prophet's words:—"Moreover, the Lord saith, because the daughters of Zion are haughty, and walk with stretched-forth necks and wanton eyes, walking, and mincing as they go, and making a tinkling with their feet: therefore the Lord will smite with a scab the crown of the head of the daughters of Zion, and the Lord will discover their secret parts. In that day the Lord will take away the bravery of their tinkling ornaments about their feet, and their cauls, and their round tires like the moon, the chains, and the bracelets, and the mufflers, the bonnets, and the ornaments of the legs, and the headbands, and the tablets, and the earrings, the rings, and nose-jewels, the changeable suits of apparel, and the mantles, and the wimples, and the crisping-pins, the glasses, and the fine linen, and the hoods, and the vails. And it shall come to pass, that instead of sweet smell there shall be stink; and instead of a girdle a rent; and instead of well-set hair, baldness; and instead of a stomacher, a girding of sackcloth; and burning instead of beauty." Some of the pestilential symptoms are, we fear, visible in this age, but the shame has not yet deadened the morbid desire to dress in an unbecoming manner.

The words of the prophet, as given in the above extract, ought to be pondered over by gentlemen as well as by ladies, and churchmen as well as laymen. How many human souls have been damned for a piece of silk! and how many divorces have arisen in the Divorce Court through the longing for the same material of dress! Between the Roman females of nearly sixteen hundred years ago and the ladies of London, Dublin, and Glasgow to-day in many things there is but small difference. In Seneca's time, silk, though immensely dear, was much worn by those who could afford it. He speaks of it as a lady's clothing which neither hides their bodies nor their shame. It must have been

very thin or closely-fitted in his time; and history is repeating itself—dresses are now closely-fitted, shamefully so! We are informed by Manilius that in these times the head, neck, and hands were decked with precious stones; and the ladies' snowy feet shone with chains of gold. I have seen, says Pliny, Lollia Paulina, the wife of the Emperor Caligula, dressed not in her best manner with rows of emeralds and pearls totally covering her head and neck, bracelets on her wrists, rings on her fingers, and earrings. Pliny gets out of temper in further describing their extravagance in wearing precious stones on their feet, slippers, and other parts of their body. According to Ovid, they painted their faces and eyebrows as they do now, though probably not with the like materials. They had their hot-irons, according to the same poet, for curling their hair, and, like at the present day, not always their own. They dyed their hair, too, and wore false teeth. Martial wrote—Thais has black and Lecania white teeth. What is the reason? asks the poet. Why, the last bought her's, but the former's are her own. Like now, the ladies' looking-glasses in Roman times were as tall as their bodies, with gold and silver borders, and embossed with precious stones. As to other articles of their toilet, Ovid mentions the numberless little boxes filled with paints, perfumes, ointments, and divers other compositions, emitting smells that often affected his stomach. The multitude of servants in some families exceeded all belief. If Roman ladies were extravagant belles, Roman gentlemen to some degree were extravagant beaux or fops. What they were like 1,500 years ago, we will probably tell anon.

It takes a long time to perfect an invention, and often the improver instead of the inventor reaps the reward. A living Irish churchman has asserted that steam is in the Bible, the locomotive is in the Bible, photography is in the Bible, and, if we remember aright, that the telegraph is in the Bible. There are other modern inventions which our countryman has pointed out which may be found in the Bible, if we only search and understand the descriptions given. The great prophetic Dr. Cumming has been telling us for years of prophecies, some of which have been fulfilled, and others which will shortly. We hope not. We have enough to do with the prophecies, St. Columbkille's in particular, without being frightened out of our wits with the interpretations of Dr. Cumming. The Irish sennachies or Irish prophecy men were wont formerly to add a little of their own to our native saint's text. But to return. Who invented or discovered electricity? We might find under-glimpses of the mysterious science among Greek and Roman authors, and the late Professor Wheatstone was more indebted to his predecessors of three-quarters of a century ago than perhaps he cared to acknowledge. We say this not with any intention of depriving him of the merit that is justly due to him for perfecting the apparatus. Coming down to a late date, we find in "Young's Tour," vol. i., page 79, second edition, 4to., 1794, the following observations:—"In electricity M. Losmond has made a remarkable discovery; you write two or three words on a paper, he takes it with him into a room, and turns a machine inclosed in a cylindrical case, at the top of which is an electrometer, a small, fine, pith ball, a wire connected with a similar cylinder, and electrometer in a distant apartment, and his wife, by remarking the corresponding motions of the ball, writes down the words they indicate, from which it appears that he has formed an alphabet of motions. As the length of the wire makes no difference in the effect, a correspondence might be carried on to any distance—within and without a besieged town for instance—or for a purpose much more worthy, and a thousand times more harmless, between two lovers prohibited or prevented from any better connection." After the above, we might exclaim with Ecclesiasticus—"There is no new thing under the sun." We may yet be able to do

without the wire in telegraphy, and what a secrecy and saving will not that be to nations and individuals! It would scarcely be a blessing, however, all things considered.

H.

INCHICORE LOCOMOTIVE WORKS.

A DESCRIPTION of these works—which have often been hitherto described—has appeared in the *Railway News*, as received from a “Dublin Correspondent.” The writer says, among other things, that in these works the great aim has been to carry out the principle of uniformity to the fullest and most complete extent, and through great perseverance and untiring tenacity of purpose, the able locomotive superintendent of the works, Mr. Alexander M'Donnell, has been enabled to produce results in this direction not second to what have been attained in any other works in the United Kingdom.

To carry out this principle of uniformity in the most perfect manner, three types of locomotives were, after great care and experience, decided on as models, according to which all the engines should from thenceforth be built, even to the most minute detail. One of these model locomotives, intended for fast passenger trains, has six wheels, four coupled, 6 ft. 6 in. diameter. The second, for slow trains only, has also six wheels, with four coupled, but 5 ft. 8 in. diameter; and the third (the goods engine) has also six wheels, all coupled, the diameter being 5 ft. It is some evidence of the judgment shown in the selection of these models to find in a paper some time since read before the Institution of Civil Engineers, by Mr. Robinson, of the firm of Sharp, Stewart, and Co., that that gentleman described the goods engine of the Great Southern and Western, and one built by his firm for the Bombay and Baroda Railway, as standards nearest to perfection. Now all the engines of the Great Southern and Western are constructed to one or other of the three types already described, the frame-plate, cylinders, cranks, connecting-rods, and all the other parts being made, according to template, exactly like to the several corresponding parts in the particular model locomotive. But this principle of uniformity is carried even further than this, as several parts of all the engines are alike, such as bolts, nuts, pins, &c.; and it is a striking feature that every part of the locomotives is made at these works from templates.

The important principle of uniformity having turned out so successfully, it is now about to be applied in other directions, and Mr. M'Donnell is making arrangements at the saw mill and joinery so that all trucks, wheel-barrows, as well as door and window frames for stations, shall be also made from suitable models, on something the same plan as in the case of the locomotives.

The arrangements of the smithy are also excellent, and here valuable results are produced by means of a Siemens furnace, which, with 2½ tons of coal, does as much work as it required 5 tons of coal to do in the ordinary air furnace. With the Siemens furnace 5 tons of peat or 2½ tons of coal are found sufficient to convert one ton of scrap iron into finished locomotive forgings; and an excellent system of case-hardening is also in operation at these works.

New grease works have also been established, by which already a saving of £600 a-year in this department alone is effected; and gas works are also provided on the premises.

And not the least interesting thing at Inchicore is the reading-room, which has a school and lending library attached to it. All the apprentices are bound to attend night school, and a small contribution out of their wages is stopped by the pay clerk to pay the teacher; and boys who attend school and answer well at examinations receive premiums. All the workmen residing at Inchicore subscribe to the reading-room, and when a dining-hall is erected, which will be solely

for the benefit of those not so residing, all workmen will be obliged to contribute. About £170 is now in the bank to the credit of the reading-room. No payment is made except by cheque, which must be signed by one of two workmen named for this purpose, and by the locomotive superintendent of the works, Mr. M'Donnell, who has taken a warm interest in the reading-room; and this system has prevailed for the last eight years to the perfect satisfaction of all concerned.

About 1,200 hands are employed at Inchicore, for whose accommodation comfortable and healthy dwellings have been erected by the company.

In the matter of the dwellings of the workmen, we might remark that when we last visited the locality there seemed to be considerable room for improvement in a sanitary direction. Early in the year we will perhaps pay a visit to the locality; and report progress.

HANDICRAFT AND HANDICRAFT TOOLS.

HAMMERS.

(Continued from page 26.)

IN one respect hammers may claim for their device the homœopathic axiom, *similia similibus curantur*, for as hammers drive nails, so here in my hand is a hammer contrivance for extracting nails. [A two and a-half inch nail was driven into a block of wood and then drawn. Messrs. Churchill, of Wilson-street, Finsbury, lent the nail puller, and also supplied the illustration.] The action may be described by saying that in the man's right hand is a loaded steel rod, which can be driven forcibly down the iron tube in the left hand. This action sinks below the head of the nail a nipping contrivance, and the hammer-rod being now withdrawn so far as a leather thong permits, a leverage is obtained by which the nail head is seized and the nail withdrawn.

Hammers, with and without handles, are in use—hammers of various weights, from ½ oz. to 10 lbs., and from 15 lbs. to 56 lbs. are now employed as hand-hammers. The angles of attachment of handles to heads are various; the position of the centre of gravity of the head in reference to the line of penetration of the handle is various—the faces have various convexities—the panes have all ranges and forms, from the hemispherical end of the engineer's hammer, and the sharpened end of the pick and tomahawk, to the curved sharpened edge of the adze, or the straight convex edge of the hatchet and axe; the panes make all angles with the plane in which the hammer moves.

Various as are the uses to which hammers may be directed, yet like many other handicraft tools certain contrivances are requisite in order either to direct or give full effect to the tool itself. Art has given to the hammer-head only the handle as its contribution. Nature supplies other and more essential contrivances. These contrivances are mainly the muscles of the arm, although under certain circumstances other muscles of the body, especially those about the loins, are called into action.

It will suffice for the present purpose to regard the mutual adaptability of the hammer to the muscles more immediately concerned, and of these muscles to the hammer. Five muscles connected with the arm play most important parts in the powerful action of the hammer. These are the pectoral and trapezius muscles—the deltoid, the biceps, and the triceps. Remembering that “work” or “energy” is the result of a combination of weight with speed or velocity, and further, although in the hand-hammer itself there is a very great range in the choice of weight, yet since the maximum range is limited, it behoves us to see how the available velocity can be utilised. It is to say the least curious—to speak more plainly, it is a wonderful proof of the far-seeing skill of the Great Designer of the human frame, that in

the arm no provision is made for that one of the two elements in “work” which is derivable from weight or mass alone, and yet there is a perfectibility of contrivances for velocity within the maximum limit. These contrivances, regarded from a mechanical point of view, may be briefly summed up by saying that the tendons by which the muscles are attached to the levers they are appointed to move, are fixed near the fulcra. Thus the very powerful deltoid muscle, which is inserted close to the shoulder-joint, gives a rapid motion in raising the whole arm with the hammer in the hand; or, if the whole arm is not required, then similarly fixed near to the elbow is the biceps muscle, which gives a rapid motion in lifting up the forearm with the hammer in the hand. By one or both of these muscles the handicraft hammer-head is placed in a position of potential energy. If there were no other muscular contrivances, then the actual energy would result entirely from gravity, and the wonderful range of handicraft hammer power would simply be determined by the height to which the deltoid or biceps muscle might have raised the hammer; in fact, man would become a very commonplace simple pile-driving machine, quite powerless to modify the conversion of potential into actual energy.

Now let us note the action of the great pectoral and trapezius muscles. Suppose the hammer-head is raised by the deltoid, gravity would cause it to descend with a certain velocity, and thereby produce or develop a certain calculable energy. Watch the action; these two muscles, either jointly or separately, harmonise with the tendency of gravity, and cause the hammer to descend two, three, four, or five times faster than it otherwise would have done, thus most materially increasing the developed energy, although not in the proportion of these figures. What applies to these muscles in reference to the deltoid and the whole arm applies similarly to the triceps in reference to the biceps and the forearm. Thus nature has provided so efficient and so variable a contrivance in order to extend and yet modify the range of energy in the hand-hammer, that through all the countless ages in which it has been used no change has ever been proposed or adopted in reference to the modes of applying and handling the hammer, or in communicating that velocity upon which the amount of energy or work depends when the weight of the hammer-head and length of handle are constant. A careful adjustment of the motive work required from these two sets of muscles is essential to the endurance of the workman.

It has already been observed that one set of muscles is occupied in driving the hammer, the other set in restoring the hammer to a position of mechanical advantage. In more strict phrase, by the one set of muscles actual energy is obtained; by the other set potential energy is had. The breaking of stones on the highway will illustrate the meaning. The hammer used is a small one, the handle elastic and long, thus requiring from the muscles that for which they are adapted, viz., speed, and not power; hence two sets of muscles being alternately brought into play there is no excessive fatigue. The handle is not only long, but elastic, and so the jarring sometimes resulting from blows is checked before reaching the workman's arms. Again, the hammer-head is shaped with a small face, and a mass of metal uniformly distributed behind it, similar to some of the flint hammers produced in a former lecture, thus securing that, generally, the reaction of the blow shall be in a line passing through the centre of percussion, in this case the centre of gravity of the head. One consequence of this is that there is less liability to jar and less waste of muscular energy in the blow. Had the face been a broad face, then a blow given other than in the middle of the face would expend much energy in producing jar.

Further than this the stonebreaker's hammer is made symmetrical on opposite sides

of the handle; hence he may with equal facility give blows with either face, and (in consequence of the centre of gravity being in or very near the centre of the handle in the head) if it be wished even with the sides of the hammer-head.

Such reasoning as this if followed out may serve to explain why stonebreaking is accomplished by a hammer-head apparently so well proportioned as regards form, but so ill-adapted as regards weight to the work to be done. The effect of oft-repeated blows either by a large or a small hammer has been noticed, and probably few experiments have proved more expensive.

In the early days of railways (as means of public conveyance) the rails were laid in chairs, which chairs were at intervals bolted to heavy stone blocks, the chairs supporting the rails near the ends. The consequence of the direction of the train upon one set of rails being always the same; the end of the rail along which the train was travelling was raised above the rail on which it was about to travel. If a person stood by the side he would notice that owing to the weight of the train the rails bent, and the ends towards which the engine was moving were therefore raised. Hence, as the engine passed over the end it dropped on the next rail as a hammer, and so damaged and finally destroyed the end of that rail. One element towards the improvement introduced to remedy this, i.e., to transfer the effect of the blow from the rail end to the whole construction, was to take up many miles of stone blocks and introduce wood, thus securing a needful elasticity. This has been further improved by what are called "fish joints," which cause the whole length of many combined rails to contribute their elasticity in order to put a stop to this locomotive hammer work.

(To be continued.)

THE ARTISANS' DWELLINGS ACT.

LODGINGS FOR THE PLAGUE.

At a meeting of the London Metropolitan Board of Works, held on the 21st ult.,

Mr. Rogers drew attention to an article in the *Daily News* of that day, in which the writer contended that the Metropolitan Board of Works was not to be entrusted with carrying out the Artisans and Labourers' Dwellings Act, since, in an improvement scheme which it had adopted in reference to a district in Holborn, it had provided for 1,000 tenements with one room each. The Board had thus been unfairly traduced. The writer ought to know that before anything could be done under the Bill, the Home Secretary could exercise a veto upon proposed proceedings. He desired to ask the architect whether there was any truth in the accusation thus made against the Board.

The Superintending Architect (Mr. Vulliamy) said it was proposed that the buildings referred to should be provided with every sanitary arrangement necessary.

Mr. Newton—The question is whether you have allowed more than one room per family.

The Engineer (Mr. Joseph Bazalgette) said that he and the superintending architect had been guided by what existed. They found the population consisted of families of different sizes, and the buildings had been designed to accommodate them. The scheme was got out to enable them to form an estimate of the cost of providing for that population in the best way. They had never proposed to carry it out.

Mr. Runtz remarked that their duty was to remove nuisances, but not to build dwellings for any one.

Mr. Newton, having regard to the statement made, moved—"That it be referred to the engineer and architect to report as to the number of single rooms, double rooms, and the number of three and four rooms projected in their scheme to make provision for the population that would be removed." He did not think the Home Secretary would allow many single rooms. They hoped to see families discontinuing the practice of sleeping in one room. The Board would not interfere with Sir Sydney Waterlow and others interested in the dwellings of the poor, further than to secure proper accommodation for those they intended to house. From what members knew of the intentions of the engineer and architect, they thought they had been extravagant rather than otherwise. When the

question was looked into, it would, no doubt, be found they had made fair provisions for all requirements.

Mr. Carr seconded the motion, which was agreed to unanimously.

It appears to us that neither the architect nor the engineer of the Metropolitan Board of Works have been outspoken in their answers. If we mistake not, our London contemporary, the *Builder*, recently alluded pertinently to the drawbacks of the proposed improvement in the district of Holborn. We are of opinion that, if public attention had not been directed to the subject through more channels than one, numerous dwellings would have been provided for the artisans and labourers of one room for each family. About the neighbourhood of Gray's Inn-road in Holborn there are reeking rookeries of chronic disease and filth, where whole families are living in single rooms, which act as living and sleeping rooms. We fail to see the improvement that would be effected by replacing the old buildings by new ones in which single rooms only would be provided. Two rooms is the very least that decency and common sense could sanction for the smallest family—indeed three rooms, where there are a number of children, some grown up, is absolutely necessary. Single rooms in crowded or uncrowded districts are nothing less or more than Lodgings for the Plague.

As we are penning these lines, a paragraph meets our eyes, being a portion of an article that appeared in a London newspaper on the 22nd ult. (*Lloyd's Weekly News*). We quote a few sentences:—

"Sir Sydney Waterlow told his constituents at Maidstone on Wednesday last that on the area in Gray's Inn-lane which is to be cleared of its present noisome, fever, and vice-breeding tenements, the Metropolitan Board propose to build in flats a thousand homes, each to consist of a single room, with the necessary domestic offices on open balconies. [Single-room dwellings are the worst of dwellings, not only on sanitary, but on moral and social grounds. They are plague places for body and mind. To their thousand rooms do the Board of Works invite the pestilence with which we are threatened? Are they anxious to be its most munificent hosts? If that which Sir Sydney Waterlow stated to his constituents be neither a misapprehension nor an exaggeration, we do not hesitate to say that the Metropolitan Board of Works is unfit to be entrusted with the application of Mr. Cross's Artisans' Dwellings Act to London; and that the Home Secretary will misunderstand his duty if he does not refuse to sanction the initial blunder in artisans' dwellings which is in contemplation—and at the expense of the State."

The above paragraph confirms our belief in respect to the contemplated improvements in the district of Holborn. We are glad that such a scheme is nipped in the bud. The Metropolitan Board of Works, it must be admitted, has carried out some gigantic improvements in London, but at enormous expenditure. In some of these, we fear, there was a little *jobbing*. Though acres of old property have been removed through the action of the Board, very few improved dwellings have been provided on the sites. Wide streets and palatial mansions and chambers have been built, but the working classes have been hustled out of the city into the suburbs, and, had not the great facilities of workmen's trains existed in London, the case of the artisan and labouring classes would be hard indeed.

Bearing upon the subject under notice, we give herewith a summary of the proceedings of a special meeting of the Commissioners of Sewers, held on the 25th ult., for the purpose of signing a memorial to the Home Secretary for a provisional order authorising the carrying out of the scheme for the improvement of Holiday-yard:—

The Chairman (Mr. Jno. Staples) stated that a letter had been received from the Ecclesiastical Commissioners, the owners of a portion of the property in question. They called the attention of the commission to the fact that before the close of 1877 their portion of the property would be covered by warehouses and other substantial buildings at an expense of £20,000; and they ventured to suggest that the Artisans and Labourers' Dwellings Act

was meant to apply only to those courts and alleys where it was not in the power of any one owner to make such alterations as were necessary. Further, they stated that the London and County Land and Building Company were the sole owners of that portion of the property to which the provisions of the act could apply, and the estimate of the city surveyor of the cost of the acquisition of the property was much too low. They concluded by saying "that the cost to be entailed was out of all proportion to the number of the working class to be accommodated."

Deputy Horan proposed that the memorial should be signed.

Several members, including the Lord Mayor, expressed a hope that the Act would be strictly carried out.

Mr. Bedford said that during the year they intended to deal with all the plague spots in the city, which would probably cost £600,000. He believed the money would be well spent. He was glad to see that they did not propose to have single-room tenements. They repudiated them entirely, and they said "there can be no decent home with less than two rooms."

Mr. Saunders argued that Holiday-yard was not a proper site for working men's dwellings, and that it was unnecessary to spend something like £120,000 there for the accommodation of 400 people.

Eventually the motion was carried, with four dissentients only. The memorial was then signed by the chairman and the Lord Mayor, and it was resolved to forward the letter of the Ecclesiastical Commissioners, with the memorial, to the Home Secretary.

We hope the Corporation of London, in its future schemes of city improvements, will pay a little more attention to the wants of the industrial and working classes. We know that sites are valuable in the heart of London, but it is questionable philanthropy and public spirit to pull down whole streets of houses that afforded accommodation for thousands of the families of working men, and replace them or allow them to be replaced by warehouses. There should be a certain proportion of workmen's dwellings or houses, or flats, provided in every scheme of street improvement. We cannot say we are in favour of huge blocks of buildings like the Peabody and Waterlow buildings, towering up in the air five or six storeys high, more like barracks or prisons (externally at least) than the dwellings for families. Sanitarily speaking, they are of course far better than the ill-ventilated rooms in the tumble-down houses in many a crowded quarter of London. These large blocks of buildings are neither homely nor enticing, and the rooms in these blocks are in many cases too high in rent for the poor, and in many other instances they are occupied by persons for whom they were never intended, and who could afford to pay a higher price for comfortable dwellings elsewhere.

We trust that, in the long-contemplated street improvements intended to be carried out in Dublin, the Executive and the citizens will insist that due provision will be made for providing for the working classes who may be displaced. It is the duty of the Corporation of this city to give their serious consideration to the subject. The provisions of the Artisans' Dwellings Act are applicable to Dublin, and we hope ere long to see, north and south of the city, improved dwellings for the artisan and labouring population carried through its application.

Year after year we have advocated a reform in the matter of dwellings for the artisan and labouring population in town and country. We care not whether it is accomplished through the aid of companies or corporations, though it is strictly the province of the latter and landed proprietors to take the improvement in hand. Capital in this and other cities and towns in Ireland may be profitably invested in such undertakings. A good return is certain to those who honestly and judiciously undertake the task of providing sanitary and comfortable dwellings for the working classes and others of limited income. Over and over again we have described the character of the tenement dwellings in houses once good and suitable for private families of good means, but entirely unsuited now for the housing of

dozens of families through the want of the needful sanitary and domestic requirements of separate families of working men. There is a portion of the tenement houses of Dublin that could easily be made suitable for the housing of a number of working people, but we fear there are but few of their present landlords or sub-landlords will expend a penny on this improvement. So long as a tenant can be found, these tenement rooms will be let until dilapidation and dirt eats them from basement to roof, and they drop asunder through sheer rottenness, killing their inmates and the passing public without. Some of the unprincipled landlords of these wretched tumble-down houses know how to set a value upon their wretched rookeries when they hear that their site is likely to be wanted to make room for a street improvement. We hold, however, that such neglectful owners ought to get the smallest compensation compatible with justice and law. In fact, it ought to be made a condition for compensation that landlords who have systematically neglected to keep their house property in repair, should receive little consideration on the head of their claims. Owners of house property, whose tenements are "lodgings for the plague," are themselves public pests, and they ought to be held amenable to the law for setting man-traps for the maiming or murder of their fellow-men.

THE ROYAL HISTORICAL AND ARCHÆOLOGICAL ASSOCIATION OF IRELAND.

The quarterly meeting of this Association was held on Wednesday, 19th ult., at the apartments, Butler House, Kilkenny.

The Rev. CHARLES A. VIGNOLES in the chair.

The following gentleman was elected to a Fellowship, viz., James F. Fuller, F.S.A., F.R.I.B.A., Brunswick Chambers, Dublin.

The following members were elected:—Rev. James F. M. French, E. Barton, John Sullivan, Hon. Louisa Plunket, Rev. G. E. Cotter, A.M.; Henry Chappell, C.E.; Martin Sweeney, Rev. R. J. Savage, J. Romilly Allen, C.E.; Rev. William Ross, Hugh Allingham, Rev. R. Y. Heatly, A.M.; Rev. R. H. Rogers, A.M.; J. Blair Browne.

The report of the committee for past year was brought up and read by the Rev. James Graves, hon. sec., as follows:—

Your committee have to report on the whole a satisfactory progress of the Association during the past year. It is true, that in consequence of one of those fluctuations incident to all such societies, there has been a decrease in the roll of members during the past year; but the list of fellows shows a slight increase, and it is to be hoped that the ranks of the members will be fully recruited before the present year is out. Five fellows, and twenty-four members have been elected during the past year, whilst two fellows and thirty-one members have been removed by death, resignation, and another cause to be presently alluded to. The roll now consists of ninety-one fellows, and five hundred and sixty-seven members, in all six hundred and fifty-eight. The fellows elected during the year are as follows:—The Right Hon. Lord Emly, J. Smith, jun., Esq., and Charles C. Palmer, Esq., J.P. Two members have been admitted to fellowship, viz., W. J. De Visnes Kane, Esq., M.R.I.A., and John Ribton Garstin, Esq., LL.D., M.R.I.A.

Although death has, alas! been busy in the ranks of the Association, yet the decrease in the list of members is chiefly attributable to another cause, which it is hoped will not be so marked in future. The number of members who, being three years in arrear of their subscriptions, have by the rules to be removed from the list, is unusually large this year.

In connection with this subject your committee trust that all members will bear in mind that in dependence on their honour the "Journal" of the Society is now committed to the printer and engraver at the commencement of each year. Subscriptions should, therefore, be paid in as soon after the first of January as possible. . . . The October number of the "Journal" for 1875 is in hands, and the "Annual Volume" for that year, being the sixth part of "Christian Inscriptions in the Irish Language," is also far advanced.

Two fellows of the Association have died during

the year, viz., John G. A. Prim, Esq., and Lawrence J. Waldron, Esq., D.L., M.R.I.A. Mr. Prim was one of the Founding Fellows under the Queen's Letter, and had filled the office of honorary secretary, conjointly with the Rev. James Graves, since the formation of the Society in 1849. Of the high esteem won by Mr. Prim from all who knew him, this is not the place to speak; his ability and learning, his honourable principles and moral worth; his kindly nature and genial heartiness of manner won him a high place in the regard of all classes in his native county and city of Kilkenny. Within these bounds and far beyond them he was known as a deeply and widely learned student of his country's history and antiquities. Without his enthusiastic aid and help this Association would never have existed. When it struggled into existence as the Kilkenny Archæological Society in 1849, it must, like other local efforts of the kind in Ireland, have speedily died out, but for the energetic support it met with from Mr. Prim. His rich stores of Irish archæology supplied the material of many of the most interesting and important papers read at the earlier meetings, and the columns of the *Kilkenny Moderator* (with which Mr. Prim was professionally connected before he became proprietor of that paper) were thrown open to record the meetings at a time when the Society was unable to issue a Journal of its own. From that time till the day of his lamented death on November 2nd, 1875, his mind, his pen, and his influence were ever exerted in its favour. He rejoiced at the prosperity of the Society advanced, and his invaluable historical collections were ever ready to contribute to the interest of the meetings and the value of the Journal of the Association, which a mind richly stored and a retentive memory always enabled him to produce when most required. Truth, above all, was the object of his being. He never fought for a theory because it was his own; and he never shrank from opposing what he believed to be erroneous; yet he ever did so in the kindest and fairest spirit. In the maturity of his powers, and at the comparatively early age of fifty-four, he has passed away, honoured, beloved, and lamented by all who knew him. His loss is deeply and widely felt, whilst to this Association it seems almost irreparable; for it may well be asked, who is to fill his place? The truth and unselfishness of his nature, his love of his country, his desire and power to investigate and make known its history, its arts, and civilisation, and to interest others in the pursuit which was so dear to him, cannot easily be matched, and will, no doubt, be fully appreciated by the fellows and members of the Association, of which he was so long the efficient secretary.

The report was adopted, and ordered to be printed. The committee and officers were re-elected.

Mr. Graves then brought up the treasurer's account for 1876, which he read.

Dr. Fitzsimons and Mr. J. G. Robertson were re-elected as auditors for the present year.

R. Corkrairie, Esq., was elected hon. local secretary for Roscommon and Westmeath.

W. F. Wakeman, Esq., was elected an Honorary Fellow of the Association, in recognition of his exertions in the cause of archæology.

The following resolution was passed unanimously:—

Resolved—That this Association, assembled at its annual meeting, expresses its deep regret at the irreparable loss sustained by the lamented death of its late hon. secretary, J. G. A. Prim, Esq. His removal leaves a blank which this Society feels cannot be filled, as it was in a great measure owing to his untiring zeal and remarkable ability that this Association has attained its present high position.

That a copy of this resolution be presented to Mrs. Prim, with an expression of our deep and heartfelt sympathy for her under her recent sad bereavement.

It was unanimously resolved that, out of respect to the memory of our late lamented hon. secretary, this Association do not on this occasion proceed with its usual business, and this meeting be now adjourned until next quarterly day.

HOME AND FOREIGN NOTES.

Mr. William Atkinson, of Southport, has presented a sum of £6,000 to the corporation of the town for the site and building of a free library.

The old "Four Courts Marshalsea" is to be converted into a dépôt for the Dublin Artillery Militia and the Dublin Infantry Militia. Estimates of the cost of carrying out the necessary alterations will be laid before Parliament next session.

The morning journals announce that the recent course of lectures on "Sound" at the Royal College of Science, St. Stephen's-green, was patronised by "large and fashionable audiences chiefly composed of ladies." Working men are shortly to be offered the boon of a course of lectures at a moderate tariff, to be delivered at four p.m.—an hour at which they cannot attend in numbers.

DEAD LETTER OFFICE SALE.—The United States' Postmaster-General has authorised a sale by auction at Washington, commencing on the 17th inst., of 8,600 different articles sent through the mails, but unredeemed, including books, paper, music, engravings, jewellery, neckties, baby clothes, socks, scarfs, violin strings, scissors, knives, shoe brushes, gloves, stockings, corn-crushers, scythe stones, tooth-picks, charms, asthmatic fumigators, nightcaps, sheetings, ribands, saws, and corn-huskers.

MINING IN IRELAND.—The Mining Company of Ireland in their last half-yearly report say that "The operations of the company during the past half-year, have resulted in a net profit of £4,193 6s. 8d., after an expenditure of £1,193 18s. in permanent improvements at the several establishments during that period. This result is the more satisfactory as it has not been caused by any temporary rise in prices, but by the legitimate course of your mining and manufacturing operations. The directors recommend that out of the net profit of £4,103 6s. 8d., a dividend be declared at the rate of 5 per cent. per annum, free of income tax, which will absorb £3,500, leaving a balance of £693 6s. 8d. to be carried over to the next account."

TO CORRESPONDENTS.

PEOPLE'S PARKS.—We heard recently that Lord Charlemont's demesne, Marino, Fairview, was about being disposed of. Whether the present representatives of the family have actually and finally parted with the estate, we cannot say. A people's park has been in contemplation by the Corporation for some years on the slob lands in the vicinity; but the Charlemont demesne, or a portion of it, would make a magnificent public park for the use of North Dublin. If money could be raised for its purchase. For the accomplishment of such, we are of opinion that poor and rich in Dublin would subscribe to supplement any other sum that could be raised by other means.

THE INSPECTION OF MARKETS.—Constant inspection is needed in Dublin in this direction; and, whether at the instance of the Lord Mayor or by the sanitary officials it should be made at times when least expected, and without previous knowledge being afforded to the evil doers.

W. H. (London).—Granite of both colours, and of excellent quality, can be had here; and marble fit for statuary purposes. Black marble and other limestones were shipped to London in the seventeenth and eighteenth centuries for public buildings, and used and recommended by Sir Christopher Wren.

ST. AUDEN'S CHURCH.—Some particulars will be found in one of the volumes of the *Dublin Penny Journal*, Bell's *Gothic Architecture*, *Dublin delineated*, and in the local histories of the city.

AN ARTIST.—There are peculiarities in the architecture of most of the fugal churches and abbays. They are generally of small size, and their belfries or bell-cots in some instances are double.

DR. S. (London).—We cannot accept your advertisement at any price. We are determined opponents to quackery in architecture as well as in medicine. Some houses are "built to sell" and to kill, and there is always the danger that unqualified practitioners in medicine will kill more than they can cure. *En passant*, with regret we see that more than one of our daily and weekly newspapers in Dublin are still inserting the advertisements of London and Dublin quacks and impostors.

AN ARCHITECT (Belfast).—We know nothing of the gentleman named, save what has been stated of him in the daily Press. He is not a member of either society, so far as we are aware. **RECEIVED.**—J. H. (Maynooth)—J. N. G. (Ballinrobe)—W. C. (Enniskillen)—C. E.—P. R.—A Citizen—R. A.—Sanitas—M. D.—P. L. G., &c.

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NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

Correspondents should send their names and addresses, not necessarily for publication.

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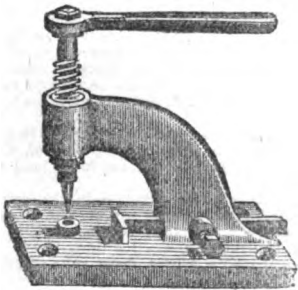
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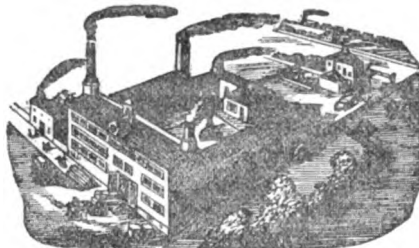
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The Irish Builder.

VOL. XVIII.—No. 388.

British and Irish Architects, and their Institutes.



CERTAIN reforms—some called for, and some uncalled for—have been advocated by a younger party of architects within and without the British Institute, for some years. The agitation, or disaffection, or whatever else it might be called, resulted at last in some prolonged sittings and discussions on the head of propositions brought forward with a view to the better working of the Institute in future. The older heads, and, perhaps, the wiser in many respects, have carried their point; and the British Institute, in the opinion of some, have succeeded in putting their house in order. A portion, however, of the younger members are inclined to think otherwise. The outside public have not been favoured with a report of the lengthened debates that took place; and, all things considered, it is, perhaps, better for the profession the proceedings were not reported in detail. It is too soon yet to pronounce an opinion on the "taking stock" and cleaning-down process performed within the walls of the British Institute. We are inclined to think that some cobwebs have been removed, but the spiders, *in globo*, remain, and, as a consequence, another cleaning down may be necessary before long.

It is not our purpose to discuss *seriatim* all the questions which, we understand, were raised, and particularly as regards the charter question: we will leave this to the discussion of our professional contemporaries across the channel. There is one matter, however, involved, and on which we have spoken on a previous occasion—the affiliation of the provincial societies, Irish and Scotch, with the British Institute.

Much has been, and much may be said, in favour of such a proposition, but we think much more may be said, cogently and sensibly, against the affiliation, or rather the amalgamation, question. By all means, let there be closer bonds of friendship and unity of spirit between the London and Provincial societies; but—as we advised before, so do we earnestly again—let the provincial architects preserve intact their local societies not merely in name, but as real living and working societies. It has been stated that some provincial architects have refused to join their local societies, because these societies were not joined with the Institute in London. We know that there are several architects who never joined either, and, perhaps, never will, and who are glad to have an excuse for not joining.

The Irish Institute has been pointed to as a body who are anxious to join themselves with the London body, and some strange mistake has been made about the activity of the Irish body, which has been credited with a healthy existence, while the simple fact is, that, if it is not really dead, it is in the last stage of a moribund condition. We write these words with pain, and a sense of hu-

miliation; and, however distasteful the truth may be, we think it is better stated. No good purpose can be served by keeping up appearances. It would afford us much pleasure to be able to state that our Irish Institute was in a better condition, but we cannot, and we will not ventilate falsehood to please anybody.

We have an Architectural Association, which is endeavouring to supply the place of the Institute, and even this body is but poorly supported. We have not heard that its members, as a body, are seeking to join themselves with the British Institute. Some of the members of the Association are also members of the Irish Institute. If the Irish Institute cannot exist as a body, independent of the British Institute, its union with the latter will bring no strength to either body. Certain we are that men who have signally failed to help themselves or the interests of their profession in Ireland, will also fail in union with the English body.

There is a class of architects here, and they are to be found elsewhere, whose principal ambition is to get a certain number of initials affixed to the end of their names. This once obtained, they think their fortunes are made, but this is the very class of men who object to paying their lawful subscription. Men who will not support their local society, will also be sure to fail in a short time to support any. To pay a regular subscription for the support of their local body, and a certain quota towards the expenses of the central body, into which they are to be incorporated, is a thing these folk will not understand. Like foreign nations contracting loans, there is nothing so sure as a repudiation of liabilities on the part of the men we are alluding to.

There are strong provincial societies of architects in England and Scotland, and no reason exists why there should not be strong and energetic ones in this country. There is ample room for the growth of the Architectural Association of Ireland (Dublin) and the Belfast Architectural Association, and the best advice we could give to both of these bodies is to imitate the educational and independent spirit of the London Architectural Association, a really excellent strong and active body of architects, to which the English profession owes much.

The London Architectural Association has no intention of incorporating itself with the British Institute, and our honest and unprejudiced opinion on the matter is that the Association is perfectly right. The latter body is well organised, has good educational machinery, and, in our opinion, it can do more for the future of Architecture in its present shape than if incorporated with the Institute. Of course there might be a kind of formal connection between these two London bodies, a union of spirit and resolve in the interests of the profession, but no *bona fide* incorporation. It has been suggested that a formal connection between the British Institute and the Architectural Association of London might be carried out, on the basis of making the former final arbiter of the prizes and recipient of an annual report of the Association, and so, without interfering with the independence of the latter, giving it the share of weight and influence derivable from being associated with a chartered body. There might be some slight advantage in this, but we do not see that much, if anything, will be lost by the mem-

bers of the Association not being placed in the position suggested.

We have a Scottish Academy of Artists (and are not architects artists?), and it seems to thrive very well apart from the Royal Academy of London, and we have Irish and Scotch Civil Engineers' societies, which manage to keep together and grow in strength and usefulness. It is a mistaken idea that it is necessary to centre everything in London, and that nothing can succeed but that which bears the London mint mark. London as a whole is a large city, or rather a sort of small continent, and the centralisation spirit has been carried too far already in that direction. Everything of an administrative character in connection is growing yearly more unwieldy, and much of what is now being done will have to be undone. The organisation of labour and duty of many kinds will have to be further re-organised, and both Imperial and Municipal Governments will have to submit to the division of labour for the general interest.

We have local boards and vestry boards of guardians, urban and rural sanitary authorities, and sundry other organisations, and further boards as time advances will be necessary. Why should we shoot point blank against progress, and centralise in the matter of architecture. Architectural practice, custom, and ways differ considerably over the three kingdoms. The Westminster Board of Works, or Parish Vestry, would not be capable of managing the administration and local affairs of a Scotch or Irish town several hundred miles distant. In the first place, the members of the local London board would not understand the wants of the people or the parish of which they knew little or nothing. Advancing a peg higher, the London Corporation, as clever as many of its members are, would fail to administer municipal matters in Dublin, Edinburgh, or Glasgow. To a great extent the same argument, when it is properly considered, applies to architectural societies. There is a necessity for the existence of local architectural bodies in the chief cities of Great Britain and Ireland, and the more the better if they are properly conducted. If architects, as a body, were true to each other there might be three powerful institutes, one in each capital of the three kingdoms, and with each of these there might be united in spirit numerous provincial societies of the respective countries.

AN ART TRUST IN DUBLIN.

A CASE in the Rolls Court was heard on the 9th inst., on which we may have something more to say hereafter. It appears that in 1860, a gentleman named Taylor bequeathed £2,000 to trustees for the encouragement of Art in Dublin, and the Court of Chancery directed that the interest should be given in prizes to the most deserving painters of pictures; but, extraordinary to relate, since 1863 not a single Dublin artist has had sufficient merit to claim a prize, and the fund, it is stated, has gone on accumulating, and now amounts to £3,044. An application was made to the Master of the Rolls for leave to apply the funds in sending students abroad, but the Master of the Rolls directed the application to stand over for further information respecting the working of the existing scheme since 1863. He was of opinion, at the same time, that there would be some difficulty in giving effect to the proposed scheme. Both the Royal Dublin Society and the Royal Hibernian Academy are interested in the trust.

IRISH WASTE LAND AND FORESHORE RECLAMATION,

ALREADY, and on several previous occasions, we pointed out what could easily be effected in this country, either through Governmental assistance or otherwise, in the matter of the waste but improvable lands of this country. The case of Holland has been pointed to, and we would still continue to direct attention to the masterly enterprise of the hardy and industrial Dutch. They have accomplished much, but they are about accomplishing much more, in the way of drainage and reclamation. The Dutch engineers have matured a plan for pumping the Zuyder Zee dry, and the nation by a vote of the Chambers have sanctioned the gigantic undertaking. That the work will be successfully accomplished there can be no doubt, and what wonderful results will follow to the prosperity of that country can be more readily imagined than described. We understand the heads of a bill, in view of foreshore and waste land reclamation being undertaken by the State, as suggested on previous occasions, have been prepared; the Crown slob lands to be sold as in Holland, and to buy, reclaim, and sell in lots the waste lands, as proposed by Lord John Russell in 1847. We will return again and again to this important national subject.

CORK DISTRICT LUNATIC ASYLUM PLANS.

THE dispute in reference to the claims of the architect in the above matter is still unsettled. At the last monthly meeting of the board the following proceedings took place:—

The chairman read a letter from Messrs. Gregg, solicitors, informing the board that Mr. Atkins, architect, had instructed them to take proceedings against the board for the recovery of the amount of his demand.

The Chairman—Mr. Copinger is here, and I shall hand him this letter.

Mr. MacCarthy, M.P., said it was unfortunate they should be obliged to drift into a law-suit on this matter. He was not fortunate enough to hold the same views with the other members of the board on the subject, but he would ask them to pause before they declined the offer of arbitration. It appeared to him that Mr. Atkins, who was an old officer of the board and an artist of distinguished eminence, had been treated somewhat harshly; but whether that view was right or wrong, his professional advisers' offer to refer it to arbitration was worthy of consideration.

Sir George Colthurst—Have we any offer from Mr. Atkins to refer the matter to arbitration?

Mr. MacCarthy—Yes, he wrote a formal letter to that effect.

Mr. Copinger, in reply to the chairman, said there was a letter from Mr. Atkins suggesting that it should be left to scientific men. This matter was discussed by the house committee on several occasions, and they took a great deal of trouble in it. Mr. Atkins was tendered what they considered was more than he was entitled to—namely, £300; and the committee were of opinion that arbitration, as proposed by Mr. Atkins, ought not to have been entered into. He thought it would be much better that the subject were discussed in private, as there was a probability of its coming before the courts.

Mr. Murray, without wanting to prejudice the case, asked if there were not certain conditions that shackled the committee against accepting the offer of arbitration?

Mr. Copinger said there were, and it was utterly impracticable after the resolution come to by the board.

Mr. French—Are you prepared to make a proposition?

Mr. MacCarthy—I have no concern in this matter except as a governor; but I may say frankly that Mr. Atkins called upon me and said he was quite prepared to submit it to the arbitration of two architects, mutually chosen.

Mr. Copinger—I beg your pardon. There are questions here that are more for ordinary men than for scientific men.

Sir George Colthurst objected to have it left to the arbitration of men of Mr. Atkins' own standing.

Mr. French suggested it should be left to two commercial men, with power to examine architects.

After some further discussion it was agreed to hand the letter of Messrs. Gregg to the solicitor of the board, Mr. Copinger; and if in the meantime a

proposal of arbitration were made, that the board would consider it.

We repeat what we have already said—that Mr. Atkins' fair claim should be settled. If the case be tried by a court of law, the board are certain to come out of the matter second best.

THE PROPOSED OPENING OF ST. STEPHEN'S-GREEN.

It has been publicly stated within the last few days that Sir Arthur Guinness has intimated to the Commissioners of the Green his willingness to give £4,000 to clear off the debenture debt, which that sum will more than do. Sir Arthur also offers a second sum of £1,000 to be expended in the laying out and planting of the Green, with a view to its free opening as a people's park. Out of the first sum there will be a considerable surplus left. The Corporation of the city, of course, have a voice in the matter of the free opening of the Green, and it is the duty of the citizens to see that it is exercised in their behalf. The offer of Sir Arthur Guinness may be declined by the commissioners, as the majority of the residents are opposed to the free opening of this public square. Now is the time for the citizens to declare boldly on the question. We have persistently advocated the free opening of the Green and other public squares for many years past.

At a special meeting of the Corporation yesterday, the Lord Mayor stated that he and the Town Clerk had an interview with the Commissioners of the Green, and from the many obstacles which they represented stood in the way of a free opening, it was hopeless it could be accomplished. The Corporation derive a rent of £300 a-year from the commissioners, to whom it has been leased since 1800.

THE TIMBER TRADE.

In their Monthly Circular (just issued) Messrs. Richard Martin and Co., of Sir John Rogerson's-quay, state that "the stocks of timber and deals (red, spruce, and pine) in this market are well assorted, and (with some exceptions) will probably be sufficient for all ordinary requirements until fresh arrivals take place. The same, however, cannot be said for the other large markets in the United Kingdom, notably Liverpool, where the stock of yellow pine is stated to be 'the lightest which has been held at this season during the past 35 years,' and where, 'as it will be inadequate for the wants of the trade, it must command high figures.' The unsatisfactory state of business generally during the year 1875 had a depressing influence upon the wood trade, and the caution exhibited by many of the largest importers, in purchasing only such goods as they actually required, is now being felt in the improved tone of the different markets, at home and abroad, as well as in the steadily advancing prices of nearly all descriptions of wood-goods. Red deals and first quality pine deals especially have considerably advanced in value, and nearly all the good stocks and favourable specifications of the former have been sold to *bond fide* buyers at very high prices, as compared with those paid last year. Perhaps the most remarkable feature in the trade has been the reduction in the exportations from Quebec, particulars of which are as follows, viz.:—

	Tons.
In 1874 there arrived at Quebec 1,017 sailingships, having a registered tonnage of	726,407
In 1875 do. 786 do.	643,182
	221 do. 183,225
In 1875 the steamship arrivals were less by 24 steamers, having a registered tonnage of	44,757
Shewing a gross reduction in one year of 265 vessels, having a registered tonnage of	227,992

The importance of this reduction in 1875 to the wood trade will be seen from the following analysis:—yellow pine, 85,373 tons less; oak, 30,631 ditto; elm, 13,787 ditto; ash, 2,937 ditto; birch, 12,785 ditto; pipe staves, 719,000 ditto; boxhead ditto, 61,000 ditto; pine deals, 551,497 pieces; spruce deals, 945,476 ditto. The only exception is red pine, the export of which has increased by 2,649 tons, or less than 1 per cent. of the quantity exported in 1874."

From Messrs. Farnworth and Jardine's (Liverpool) Circular we learn that "the history of the timber trade during the year 1875 has been very varied—commencing with intense anxiety and gloomy prospects, arising from excessive stocks, drooping prices, and numerous failures, and ending with comparatively moderate aggregate stocks and more remunerative prices. The import for the year has been on a reduced scale generally, the speculative feeling of the previous year having given place to a more prudent course, and in certain articles where the supplies have been almost less than was wanted, the result has been a very marked advance in values; whereas in others, where the supplies are yet in excess of, or equal to, the demand, the advance has been only nominal. The total consumption of wood has been 6 per cent. less than last year, but still far in excess of previous years. The stocks are 21 per cent. less than last year, but this deficiency is irregularly distributed. The prospects for the coming year appear fair, but considering the depression in general trade, we cannot be so sanguine as to anticipate a continuance of the enormous consumption of the two past years, remembering also that the wood trade is always the last to feel the effect of such depression; we therefore again counsel judicious prudence on the part of shippers."

Messrs. Edward Chaloner and Co. (Liverpool) say:—"In reviewing the timber trade of this port during the past year, it will be seen that the total tonnage employed in the importation of all descriptions of wood has been 483,790 tons, against 583,530 tons in the previous year, being a decrease of 17 per cent. Though these figures show a falling off in supplies, yet it will be seen on reference to the tables herein that a large business has been done in wood, and if the results have not been very favourable to importers, still this market occupies a better position than it has done for a long time past, and there is a striking contrast in the general features of the timber trade now, as compared with those which existed at this time last year. Then the values of nearly all descriptions of woods were so low that almost all sales resulted in losses, the demand was not active, and there was a great want of confidence in consequence of the failure of some firms to meet their engagements, which rendered future prospects anything but encouraging. Now the trade is in a more healthy condition in every respect."

HOWTH DRAINAGE.

THE first premium, £20, for plan and specification for the drainage of this town has been unanimously awarded to Mr. F. Doyle, C.E., Kingstown, and the second, of £5, to Mr. Leonard, C.E. The competing engineers included Messrs. Brett and Son; Mr. Pailles, C.E.; Mr. Maher, C.E.; Messrs. Lyons and Ferguson, C.E.; Mr. P. M'Cann, C.E.; Mr. Adam Scott, who advocated the Liernur pneumatic system; and the two engineers mentioned who received the awards.

THE ROYAL GEOLOGICAL SOCIETY OF IRELAND.

THE anniversary meeting of the above society was held on Wednesday evening last in the Theatre of the Royal Dublin Society,—Sir Robert Kane, LL.D., F.R.S., in the chair. In the course of his address, the president referred to the papers which had occupied the deliberations of the society during the year. The labours of their members were extended over a wide field. The more abundant means possessed by the Royal Irish Academy for the publishing of papers, which extent of matter and richness of illustration made too costly for the resources of the society, had enabled many of their members to arrange for publication important and elaborate papers on geological subjects, in the transactions of that institution. In this the two societies did not in any way interfere. The researches were equally in substance or in abstract laid before them there, and supplied valuable material for their discussions. It was most desirable, by judicious husbanding of resources, that the two cognate national institutions might proceed hand in hand in promoting the cultivation and honouring the cultivators of geological science. It was only by bringing together and co-ordinating the work which had been done by their members during the past session that they were able to fully appreciate the value of what had

been accomplished; to recognise that much remained still to be done, and to judge in what fields the exertions of their members might be most profitably employed. In conclusion the President referred in terms of sincere regret to the loss which they had sustained by the death of Sir Charles Lyell.

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

SOME of our old travellers have been written down as consummate liars, and by authors who never travelled—something like species of “Our Special Correspondent” of portions of the newspaper Press, who date from Paris and Berlin, or even India, while they write at home. Some old travellers, however, told truths which, centuries later, have been confirmed, and, as a class, they do not deserve all the opprobrium that has been heaped upon them by writers of to-day. The germ of many a modern invention may be traced back to Greece and Rome, or to empires that have long ceased to exist. Dutens and other writers have asserted that in every modern discovery or invention is to be found a theft from ancient philosophers. We will not go so far as this in assertion, although it would be easy to prove that there are several modern so-called discoveries and inventions nowise new. The above sceptic, we believe, found in the droptor or pierced board of the Pythagoreans the origin of the Galilean telescope. It has been remarked that he might with equal success have perceived that the electrical kite was the property of Persia. Ctesias, the ancient physician, has been called the liar, as his reports were deemed incredible; but can it be proved that all his labours were falsehoods? He tells us in his fragments that the Persians can draw down the thunderstorm by fixing a sword in the ground. (See Stephens’ “Herodotus.”) How many centuries later was the lightning-conductor discovered? and was Benjamin Franklin an improver or an inventor? Marco Polo was accounted a great traveller in his day, and was one of the first that travelled into China, and reported the exceeding great population of that country. His statement was put down as a fable, and he was called the Man of Millions, by way of reproach. The Jesuits visited China some ages after Marco Polo’s death, and proved the truth of the Venetian traveller’s statement, and retrieved his character. Ctesibus, the mathematician of Alexandria, we are told, invented the pump and other hydraulic instruments, and also the clepsydra, or water-clock. How many centuries later were regular clocks and watches invented?—but why need we ask? All inventions are the growth of time, and some have taken centuries to arrive at their present comparative perfection. We ought to treat the labours of the ancients with respect. Many were stoned to death for their faith, and suffered other forms of death in defence of scientific as well as moral truths.

We spoke in a former note of the extravagance of ladies in ancient as well as modern times in the article of dress. The lords of the creation in some respects were not a whit better either in the early ages or in later times. According to Seneca the men sometimes exceeded the effeminacy of the soft sex in adorning their bodies. They wore coloured cloth, light and meretricious, and we are told they had a wanton mincing pace, and seemed not to walk but creep. The same writer says that they curled their hair like women, spoke with a low affected voice, and endeavoured to rival the ladies in delicacy of body (waist). These fops were certainly ancient “Dundrearys.” Seneca continues that these ancient fops would rather see the State disturbed than their head-dress, and that they were more solicitous of the beauty of the latter than of their health, and preferred being fine to being virtuous. Listen further, these ancient “fast” young men platted their hair behind, and highly anointed and perfumed it; they

changed the colour of their hair by a lotion or dye, as they do at present; they wore perukes, and used paint. Otho, the emperor, was daily shaved, and rubbed his face over with moistened bread to prevent having a beard. In these modern days of ours hundreds of our young men would use a pound of bear’s grease a-day for the 365 days of the year if they thought they could grow a pair of whiskers; but in other things off the stage as well as upon, our modern gents are a counterpart of those described by Seneca. We will here subjoin a description of a Dublin “gent” towards the latter end of the last century. It is copied from a Dublin magazine of the year 1794, and purports to be “An Inventory taken in a Fop’s Chamber.” The writer, we believe, was a student of Trinity College—

“A richly inlaid tweezer, with nippers;
A morning gown, a pair of Barbary slippers,
Three pairs of nicely-manufactured shoes,
Two golden watches, and four billet-doux;
Two broken fans, a snuff-box finely gilt,
A large cock’d hat, sword with diamond hilt;
Four bottles—two highly-scented lotions,
And two containing health-restoring lotions;
Three diamond finger-rings, a box of pills,
A syringe, lampoons, plays, and tradesmen’s bills;
A pack of cards, with edges gilt and plain;
A Paris scissors, a gold-headed cane,
A suit of neatly-trim’d embroider’d brown,
Two pictures of two ladies of the town;
An eyebrow brush, a book of style unchaste;
Patterns of cloth, the reigning hue and taste;
An ivory tooth-pick, with a splendid case;
A roll of black court-plaster for the face;
Six pair of silken hose, with golden clicks;
An opera-glass, a silver knife, a box
Of rouge, a diamond breast-pin, and a pair
Of diamond buckles, and a lock of hair.—
Such scatter’d lay round Claudio’s sleeping-room,
Replete with ev’ry foppery and perfume.”

It is scarcely necessary to say more about ancient and modern fops. If we previously dealt hard with the ladies, they have now their sweet revenge. We might add that the ladies of the present day seem to be aping the manners and dress of men more than the latter is doing of the former.

It is a question whether really clever men ought to hide their talents under a bushel. Some folk think that a clever genius will sooner or later be found out by his fellow men, and there is little need of him pushing himself forward. We doubt if this is always the case. Clever men, as a rule, are of a reserved and retiring disposition, and there are always a lot of parasites or brain-suckers watching their movements and utterances and robbing them of their fair fame. It is the duty of a man, no matter what may be his avocation, if he knows his profession or trade thoroughly, to make other people aware of it. We think it will be for the public good if he does so, for then “duffers” will be found out, and sent to the “right about.” The world is full of pretension, and men with money and no brains can manage to make use of the brains of others, which they are entitled to do, however, under certain honourable conditions. If one takes up a newspaper these days, the candidates for public support are numerous—doctors, professors, teachers, and a vast number of others, each and every one claiming to be first-rate. Doctors are cropping up that can cure every disease under the sun, and teachers who can teach the whole circle of the sciences. Modern teachers and schoolmasters do not stand alone, and they have more than one precedent. One Pierre de Corbian, a Troubadour, who lived about 1200, intending to shew himself a profound and learned scholar, gives the following list of his qualifications. It reminds us in some particulars of the prospectuses of some of our old Irish hedge schoolmasters in the last, aye, and early in the present century. Corbian must have been a real *rara avis*. He understood, according to his own account, the seven liberal arts, grammar, the Latin language, the decretals of Gratian, music, according to Boethius and Guy Aretine, arithmetic, geography, astronomy, the ecclesiastical computation, medicine, pharmacy, surgery, necromancy, germaney, magic, divination, and mythology, *better than Ovid and Thales le Mentur*. The histories of Thebes, Troy, Rome, Romulus, Cæsar, Pompey,

Augustus, Nero, Vespasian, Titus, who took Jerusalem, the twelve Cæsars down to Constantine; the history of Alexander, who, dying, distributed his acquisitions among his twelve peers; the history of France, containing the transactions of Clovis, converted by St. Remi; Charles Martel, who established tithes; King Pepin, Charlemagne, and the good King Louis; the history of England, from the arrival of Brutus in England, and his conquest of the giant Corineus; the prophecies of Merlin, the redoubted death of Arthur, the adventures of Gwaine, and the amours of Tristram and Bel Isould; the history of the Bible and of the patriarchs down to the day of judgment. Corbian was also skilled in plain chant, in singing to the lute, in making canzonettes, pastorals, amorous and pleasant palsies, and in dancing. He was beloved by ecclesiastics, knights, ladies, citizens, minstrels, squires, &c. Was there ever in the history of the world such another testimonial given by a schoolmaster of qualifications possessed? In the enumeration of the above, Corbian appears to be solemnly serious. What a polynational and walking cyclopedia he must have been! Corbian does not state he knew how to teach the Irish language, but the mention of the names of Tristram and Bel Isould reminds us of the village of Chapelized in Dublin, concerning which some of our old topographers were wont to write that it took its name after *La Belle Isould*, the daughter of Anguish or Aengus, King of Ireland. Could it be possible that this *Pierre de Corbian*, the Troubadour of the thirteenth century, was a Milesian in disguise, and an Irish bard on his travels in Normandy? Joking aside, the account Corbian gave of himself has an interest in these days, as it shows the books that were known and the studies that were considered necessary in his time, between six and seven hundred years ago.

It has been said that Homer sometimes nods; and it might also be written that Shakspeare, the great poet of human nature, sometimes errs, if not often. We will not find fault with him on account of looseness in language—not fit, ’tis said, for ears polite to hear. It was, however, the language of his day; and we question much if far worse language is not used to-day, veiled and unveiled. A play, however, ought to be true to time in all its parts, and a style of dress or appliances belonging to a later age ought not to be introduced. If an artist painted a picture representing a fair or a festive scene in the middle ages, and introduced men and women in the dress of the present day, how he would be cut up by our art, or pseudo art critics. Shakspeare speaks of cannons before they were thought of—at least before they were seen. Bohemia is made a sea-coast, and Guilio Romano is put down as an ancient statuary. Dukes are introduced in Pagan times, and the ancient pedlars with silk ribbons. Other incongruities might be pointed out, but men as great or greater than Shakspeare in other fields of knowledge committed similar mistakes, confounding the present with the past in dress, manners, and other matters. An historical play should be historical to time and place, and, if it were possible, to the very language spoken; but the latter condition can, as it must, be dispensed with, for obvious reasons. It is easy to imitate ancient architecture, furniture, appliances, and other necessary adjuncts of the stage, but we cannot educate whole audiences, even if we educate our actors and actresses, to think, feel, and understand and give expression to their emotions in the same way that their ancestors did, at home or abroad. A play has to be acted in the language of the people who, as a general class, are obliged to listen to it, and hear the characters speaking in their own tongue. Where illusions are necessary, as in the case of a play representing the manners of a bygone age, they can be perfect, and the representation made satisfactory, apart from the voice and native and speaking tongue of the actor.

NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.*

It would appear from various allusions that the writings of Shakespeare were nearly as soon known and appreciated in Dublin as in London, although the establishment of the regular theatre was later in this country than in England. In the absence of the regular Stage, plays were occasionally represented, and were customary in the houses of noblemen and gentlemen. Some took place in the ball-room of Dublin Castle, in which it is stated noblemen were the principal actors. Ashbury, afterwards manager, was informed by Ogilby, then Deputy Master of the Revels, of certain representations that took place in the Castle towards the close of the reign of Elizabeth, when Blount, Lord Mountjoy, was lord lieutenant. It is believed that gentlemen of the Court were performers on this occasion. One of the plays acted was *Gorboduc*, written by the Right Hon. Thomas Sackville, Lord Buckhurst.

Chetwood, in his "General History of the Stage," is one authority for the above; and Hitchcock repeats that Mr. Ashbury saw a bill for wax tapers, dated 7th of September, 1601, Queen Elizabeth's birthday, for the play of *Gorboduc*, done at the Castle, one-and-twenty shillings and two groats. Walker, in allusion to Chetwood's statement, made on the authority of a wax-chandler's bill, says:—"Now, had there really been such exhibitions, the expenses would certainly have been defrayed by an order of the lord deputy or privy council on the deputy vice-treasurer; yet no such order appears either in the treasury office or in the archives of the office of the auditor-general—at least, if such an order does exist, it has escaped my researches." The play of *Gorboduc*, with other exhibitions, may, notwithstanding, have taken place. *Gorboduc*, according to Hitchcock, as a dramatic piece, was esteemed the best of its kind at the time it was written. It was a favourite play of Queen Elizabeth, and, according to the same authority, was performed by gentlemen of the Inner Temple, Whitehall, before the queen on the 18th of January, 1561—a period long before Shakespeare appeared on the Stage.

Reverting to the subject of the rude attempts at comedy formerly witnessed at weddings and wakes in this country, vestiges of which still exist, Mr. Walker mentions a few of these, known as—"The Cottoning of Frieze," "The Marriage Act," "The Servants serving their Lord at Table," "The Fulling or Thickening of Cloth," and "Sir Sop and Sir Sopin, the Knight of Straw."

We will quote Mr. Walker's description of the latter:—"The design of the last is evidently to hold up to ridicule the English character, and cannot, therefore, be a production of high antiquity. I will therefore give a short analysis of this piece. The principal characters are—an Irish chieftain, who always takes his title from the Irish family of most consequence in the neighbourhood of the place where the play is exhibited; and an English chieftain denominated Sir Sop and Sir Sopin. Sir Sop is dressed in straw, with a clogad or helmet of the same material on his head; but the Irish chieftain, who is the favourite hero, is clad in the best clothes that the wardrobes of his rustic audience can afford. When these characters appear on the stage, they are separately attended by inferior officers and servants, who, like the ancient Greek chorus, stand at a respectful distance while the chieftains converse. Sometimes the chief officers are allowed to take part in the dialogue. With the drift of the plot I am not perfectly acquainted, but know that the catastrophe is brought about by an altercation which arises between our two heroes, and terminates in single combat. In this combat Sir Sopin wounds his adversary, who falls, and a surgeon appears to examine the wound. Regaining his strength, the Irish chieftain retires, followed by Sir Sopin. Soon after they enter again, and, renewing the combat, Sir Sopin

receives a mortal wound, and is borne off the stage. The Irish chieftain having thus gained the field, brandishes his sword, and strides exultingly across the stage. Then, pausing awhile, he addresses himself to heaven, offering thanks for his victory. This done, the curtain falls. The dialogue is extremely humorous, and interspersed with soliloquies, songs, and dances."

This specimen of tragic comedy may have a higher antiquity than what Mr. Walker supposed. Though in its later form it was used to ridicule the English character at its first institution, it may have had a different application. "Burlesquing the Irish" has been a common practice on the English Stage for many years; but a great reform has of late been effected in the character of the stage Irishman. The brutal Irish burlesque is at a discount, and will soon be no longer tolerated; but the good Irish play is in the ascendant. We wonder how would a revival of Sir Sop and Sir Sopin be received on the London boards. It might "bring down the house," though in a different fashion from that generally witnessed. After all, what is sauce for the goose ought to be sauce for the gander.

It was not until 1635, in the tenth year of the reign of Charles I., the first theatre in Dublin was established. It was built in Werburgh-street, and founded by John Ogilby, the then historiographer to the king, and master of the revels under the Earl of Stafford, the viceroy. For an account of the vicissitudes of Ogilby's life, Sir James Ware's work may be consulted. Harris says this theatre in Werburgh-street, which was put up under the direction and at the expense of Ogilby, cost £2,000. It appears to have been tolerably large, possessing a gallery and pit, but no boxes except one on the stage for the lord lieutenant. We know nothing particularly as to its scenery, and very little as to its company; the names of some of the pieces acted are known. It is certain, however, that a degree of success attended the first efforts of this company.

Three years later—in 1638—a new play, called the New Master, written by Shirly, an intimate friend of the manager, was produced. The following year a tragic comedy called *Langartha*, written by Henry Burnel, a native of this country, was put on the boards, and this piece held possession of the stage for several years. According to Hitchcock, it was afterwards printed with these words on the title-page, "as acted at the New Theatre in Dublin, 1641, with great applause." None of the actors' names have reached us. The same authority says:—"The plot of this play [*Langartha*] was taken from the Danish history of Saxo Grammaticus, and 'tis whimsical enough to observe that the prologue was spoken by an Amazon, armed with a battle-axe to bespeak the favour of the audience. It was perhaps in allusion to this circumstance that the Duke of Buckingham afterwards so successfully introduced his prologue of thunder and lightning in the rehearsal."

The hopeful opening of the Werburgh-street theatre met with a sudden eclipse by the breaking out of the rebellion of 1641. *Langartha* was the last play acted. The theatre was closed by the order of the chief justices, never to be afterwards opened. The poor performers were, of course, scattered hither and thither, several doubtless entering the army. Poor Ogilby, the manager, exhausted in finances, and overwhelmed by a variety of misfortunes, retired to England, where he remained for many years, until the disturbances in this country had completely subsided.

Twenty years elapsed, and Ogilby once more turns up. By the influence of friends, a renewal of his patent was obtained from Charles II., who had in the meantime been placed on the throne. He returns to Dublin, and is received with joy by some of his old acquaintances and his former patrons. Money was subscribed by the nobility and gentry—some influenced by a reviving taste for the Drama, and others in sympathy for Ogilby's

misfortunes, and the building of a new theatre commenced. Smock-alley was the spot chosen (then called Orange-street, and now the site of the present St. Michael's and St. John's Catholic Church). The work of the new theatre was pushed on with expedition, and representations began in the same year (1662). Hitchcock says:—"A tragedy called *Pompey*, from the French of Corneille, was then acted at this theatre. The translation was by Mrs. Catherine Phillips, the famed Orinda, termed by her contemporary poets the English Sappho. We hear also of another of this lady's translations from the same author, called *Horace*. Neither of these pieces were acted in England till after her death in 1644—nearly two years later than their performance here."

The first Smock-alley theatre appears from all its surroundings not only equal, but superior, to those in London at the same date. The haste with which it was erected evidently contributed to its fall, for in 1671, during a representation of "*Bartholomew Fair*" in the December of that year, the upper gallery fell down into the pit, by which three persons were killed and many severely wounded. This sad accident deterred the public, and put a stop to dramatic entertainments for some years. To poor Ogilby it was a serious blow. Worn out by repeated misfortunes and failures, and not finding his expectations likely to be realised, he returned to London, where he died in the year 1676.

A few words may not be amiss here concerning the life of poor Ogilby. He was a voluminous writer, and translated Homer and Virgil into English verse. He was originally a dancing master, and employed in the family of the Earl of Stafford as teacher to his children. He was the first person appointed to the office of Master of the Revels in Ireland. He was appointed in 1661 to conduct the ceremonies of the king's coronation, and he has left us a pompous account of the affair, in folio, with plates. He published also a large Bible, with prints, for which he was remunerated by the House of Lords. Among other works, he wrote an Account of Japan, an Atlas, the Fables of Æsop in verse, and a Book of Roads. This last book was in use for long years, and went through numerous editions, until it was at last superseded by Patterson's book. Ogilby was a Scot by birth, and was born near Edinburgh; but his name will live in connection with the early history of the Irish Stage when his other works are forgotten.

During the reign of James II. the Irish Stage had scarcely a voice, owing to the unsettled state of the times. A long interval of inaction succeeded Ogilby's death, and continued with little intermission until after the Battle of the Boyne. King James' defeat suggested a rejoicing of some kind and the revival of dramatic representation; but, though many in connection with the Irish Government wished for a representation, there were no actors to be had. Some officials about Dublin Castle agreed to exhibit the tragedy of *Othello*; Ashbury, then in this city, was the only professional actor among them. He had the conduct of the whole, and played Iago. The representation took place at Smock-alley theatre in December, 1691, and the play was performed gratis.

Hitchcock tells us among the gentlemen who performed was Wilkes, who afterwards proved a great ornament to the Stage. This actor was descended from an ancient family for generations settled at Bloomsgrove, Worcestershire. The grandfather of our comedian was Judge Wilkes, who raised a troop of horse at his own expense, commanded by his brother, Colonel Wilkes, and entered voluntarily the service of Charles I. in the civil wars. Matters, however, took an unfavourable turn; the Wilkes family suffered and fled to Ireland, and hence in the village of Rathfarnham, near Dublin, the younger Wilkes, our comedian, was born in the year 1670. Our actor received a liberal education, was good at penmanship, and was placed under Secretary Southwell, as principal clerk. But to proceed: in the words

* See ante.

of Hitchcock, "he here contracted an intimacy with Mr. Richards, an actor of great merit who belonged to Smock-alley company before it was broken up. During his acquaintance with this gentleman he used frequently to hear him rehearse, and was oftentimes induced to repeat some of the foregoing speeches. The uncommon propriety of his delivery, and the many compliments he received on these occasions were the first means of attaching his mind to the Stage, and so fully was his fame established, that at the time of performing this play, the part of Othello was unanimously allotted to him. His execution of this difficult character so far exceeded the expectations of every one present, that from that time he determined to give up his employment, though extremely lucrative, and devote his future life and abilities to the Stage. The performance of this play proved the means of reviving a spirit for dramatic exhibitions in this kingdom, and offered a favourable opportunity of re-establishing the theatre."

In our next paper we will give some further particulars of the Irish Stage at the commencement of the eighteenth century, and of the native actors and favourite English ones who found favour with the play-going Dublin citizens.

HINTS FROM AMERICAN PRACTICE.*

(Concluded from page 37.)

I MIGHT include, amongst the mechanical appliances which the Americans have brought into use with much skill and effect in their town houses, lifts or elevators for dishes and luggage. Every well-appointed house in New York has one or more of these, from the kitchen to the serving-room as a matter of course, and also from the basement or entrance-hall to the attic, for luggage. These, as well as the plumbing work already referred to, having become general, have been gradually improved so as to approach as near as possible to perfection in their operation. The same may be said of passenger elevators, which are in extensive use in all the American cities, and with which, of course, we have some practical acquaintance here; but it must be admitted that ours are not to be compared to those in use in America, either in the extent to which they are applied, or in the simplicity and smoothness of their working.

Another noteworthy instance in which the Americans have brought both mechanical skill and artistic taste to bear on domestic architecture, has reference to the style of their hinges and other door furniture. The forms of these customary with us and the manner in which they are applied, are both essentially commonplace and unartistic. What can be more disagreeably matter-of-fact than an ordinary butt hinge, except, indeed, the transparent fiction usually attempted by the house-painter, who generally tries to paint or grain it over as if it was part of the woodwork of the door? Whenever a door or pair of doors is wanted to fold right round, there seems no better means of accomplishing this result than by using double width butt hinges, projecting in all their hideous nakedness beyond the architraves. Since the revival of Gothic architecture there has been, to be sure, some attempt to introduce an artistic element into hinge-work, though even here it is too often confined to planting on sham branches, the butt hinge keeping its own place; but in our classic architecture the subject remains untouched. Now compare this state of things with the forms of hinges illustrated in the accompanying volumes, intended for and used in ordinary house work, and bear in mind the fact that these are usually silver-plated, and kept brightly burnished, and you will agree with me, I think, that in this particular the Americans are, as they put it themselves, decidedly "ahead of us." The effect of

these hinges shining on the dark polished walnut in general use for the doors and architraves is very fine, reminding one very much of jewellery on a lady's silk dress. As I understand, the American manufacturers are now turning out hardware at prices such as to compete fairly with Birmingham or Sheffield, and certainly the forms of their hinges and other door furniture are far superior to anything to be had from those places,—I think it would be worth while for some of our enterprising hardware merchants here to open communication with some of them, and let us have the opportunity of trying their work on some of our buildings.

The finish of the stairs in American buildings is much more elaborate and artistic than is usual with us; and here, too, we may derive some useful hints. Look for a moment at the ordinary finish of a stairs with us. Sir Gilbert Scott, in his work on "Gothic Architecture, Secular and Domestic," thus describes it:—"An ordinary staircase such as people are in the habit of dubbing 'handsome' without thinking it so, is after all a very dull thing: your neat steps with moulded nosings—with neat cast-iron or bronze balusters and French-polished mahogany rail screwed round like a *cornu-ammonis* at the foot, is an excellent thing in its way, and far be it from me to say a word against so time-honoured a contrivance. Let us speak well of the bridge which carries us safe over the stream, and on the same principle think gratefully of the staircase which conducts us so pleasantly to the drawing-room. All I have to say against it is, that with all its practical good qualities, there is a sleepy, self-satisfied look about it which no one would like to disturb." "It does its duty so well, and so neatly and unobtrusively, that it is really a shame to find fault with it; all I ask is to give it a filip just to make it brush up and look more lively." He then proceeds to advise how Gothic, and especially Elizabethan, architecture afford opportunities for improving on this type by the use of a "bold moulded string carved—the stately newels surmounted possibly by figures—the massive rail moulded to fit well to the hand—the balustrade formed either of individual balusters, arced, tracery, or of continuous open scroll-work"; also "by the introduction of inlaid woods, a mode of enrichment too much overlooked in our Gothic works."

Now all these valuable ideas have been apparently well known to and acted on by the Americans for a long time past, and that, too, without departing from the spirit of Classic or Renaissance architecture, which as yet is their favourite. The stairs of American houses are really beautiful and elaborate pieces of work, usually entrusted to a specialist in that line called a "stair builder," who apparently has far distanced his progenitor the "staircase hand" amongst ourselves.

The external doorways, especially of the town houses, next demand notice, as they form very imposing and attractive features in American houses, while so miserably bald and uninviting with us. I am inclined to think the architects or builders who erected the many stately aristocratic mansions of the past age in Dublin, already referred to, had much better ideas on that subject than those which have since become prevalent. At least, if we look about for a dignified and effective doorway, we are far more likely to hit on one of them than on one of our newest productions. There are bold and effective doorways to Powerscourt House (now Messrs. Ferrier and Pollock's), Charleville House (now the Roman Catholic University), and Avonmore House (now the United Service Club), also to many other old mansions; but the builders of more recent town houses seem to have had no better idea of a principal entrance-door than a plain semicircular or semi-elliptical arched opening. The American town houses, small and great, have nearly always handsome doorways, with more or less of architectural character, and of spacious dimensions, the outer door in two folds opening at right angles to

the front, and forming a most useful and inviting recessed porch, with a pair of inner glazed doors within. The panelling and mouldings are really elegant and varied, instead of the regular old four-panel or six-panel that we ought to be sick of by this time, and the material commonly oak, walnut, or other ornamental hard wood. I am aware that a prejudice exists here against anything like style in a hall-door, as looking too much like a hotel or club-house, just like what once existed against plate glass, but it is one which deserves to be discountenanced. There is certainly much room for improvement; but the scarcity of oak or other hard wood with us makes it unlikely that we shall ever rival the Americans in this particular. It is doubtful, however, whether our damp climate is not adverse to the use of any unpainted wood in such a position—at least any instances where oak or mahogany have been used for external doors in Dublin are far less satisfactory than where painted or grained deal was used—a remarkable instance in which the imitation is more lasting than the reality.

There is another very common feature in American domestic architecture, more frequent, however, in the country and suburbs than in the towns, which at first sight might seem deserving of adoption here, namely, the verandah. These are extensively adopted as affording cool and airy places of retreat from the sun; and although we are not generally favoured in this latitude with a superabundance of the rays of that luminary, similar places of shelter might seem to be desirable as protecting from rain, which is so frequent with us. I believe, however, experience is against the general adoption of such adjuncts here, unless to a very limited extent. If we could only be sure that the rain would always come down vertically, they would be of some value; but as unfortunately it is so addicted to driving in nearly a horizontal direction, and sometimes assumes the form of a drizzling mist which apparently defies the ordinary laws of gravitation, an open verandah presents a very uncomfortable place of shelter. I have seldom known them added to houses in this country without sooner or later having to be glazed in. I think, therefore, this feature, however pleasant and attractive it appears in American country houses, is one to the extensive adoption of which the climate of this country is decidedly unfavourable.

The planning of American town houses is deserving of some attention, as rather different from our regular types, and presents some advantages. That form known as the "high stoop" has many elements in common with that of the terraces of middle-class houses in our own suburbs, both having high flights of steps to the hall-door, with a basement nearly level with the street. I think, however, the Americans have developed and improved this plan considerably. The hall and staircase, it will be observed, are thrown into one, and the latter arranged to ascend in one flight for each storey; also much greater depth from front to rear given than in our houses,—the middle space being devoted to hall and dressing-rooms, lighted by a large skylight over the stairs, also by the extensive use of glazed panels and fanlights. Possibly such a disposition would be deficient in light with us; but, either from the superior brilliancy of their sunshine, or the effect of the other arrangements above described, it rarely seemed deficient in that respect there. One important advantage of the plan is, that it brings the kitchen and dining or breakfast rooms into very convenient proximity, and enables the business of the house to be performed with a minimum of servants.

There are two peculiarities of American architecture which can scarcely be passed over in a paper of this kind, but which, however successful they may be in that country, are not likely to be so here. I refer to the extensive use of wood in country houses, and of cast iron in warehouses and shop-fronts. Both these materials would be so costly here as to present no advantage, and the type of

* By Mr. William Fogerty, F.R.I.B.A. Read at ordinary general meeting of the Architectural Association of Ireland, 27th January, 1876.

design which has developed from their use in America is not likely to find favour with us. It should be noted, however, that, particularly in the use of cast iron, the Americans have attained to a high degree of skill, and that I fear it would be a long time before our ironfounders could undertake the production of architectural forms with anything like the beauty and accuracy of their work.

American church architecture, I regret to say, furnishes but few hints to the European architect, unless it be to point out to him "what to avoid." Their most recent churches may be divided generally into three classes—

- (a) Direct imitations or reproductions of English mediæval churches, seldom correct, however, either in plan or detail.
- (b) Tabernacles or meeting-houses without any architectural pretension, but often well contrived and arranged for seeing and hearing.
- (c) Attempts to combine these two discordant ideas, resulting commonly in all manner of shams and devices, to make what is a tabernacle within look like a Gothic cathedral without.

Of these three I need hardly say I consider the unadorned tabernacle by far the best, as having at least the merit of answering its purpose honestly. The last idea I look upon as the worst of all, but it is decidedly the most in fashion just now, most of the new and costly churches of New York being built in accordance with it, and of course lauded to the skies by the newspapers as noble structures, combining all the dignity and grandeur of the old world with the life and progress of the new. Imagine interiors like Spurgeon's Tabernacle, the Gaiety Theatre, or the Merrion Hall clothed in exteriors somewhat resembling Westminster Abbey or St. Patrick's, and you will form some idea of the effect.

There is, perhaps, one respect in which the arrangements of American churches are deserving of commendation, and that is in the comfortable manner in which they are furnished and fitted up. This is surely deserving of notice here, as whatever of comfort we may enjoy in our own homes, there is but little in our places of worship. The American churches are nearly always handsomely and uniformly carpeted and upholstered, not according to the individual means or fancy of the pew-holders, as with us. Why the committees of our churches should not have proper and uniform upholstery provided in our churches as well as they provide the seats themselves, I cannot understand. As it is, how absurd to see one pew or seat handsomely cushioned and carpeted, the next bare, and the next again half-and-half! Now that we are come to the voluntary system—which, I need hardly say, is universal in America,—and that every person pays for his church accommodation just as he pays for any other good thing, it is worth while for those who have the care of our churches to see that they are made a little more comfortable and attractive, without presenting such ugly contrasts as those just alluded to.

The same observation applies to some extent to the theatres, which in America are furnished and fitted up in a manner to put us to shame. When we shall see any improvement in that respect, cannot be predicted, but I fear the date is very far off.

I trust that these few hints derived from American practice may not be deemed unworthy the attention of this Association.

MEETINGS OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

At the ordinary general meeting of the above, which took place at the rooms of the Institute on the 31st ult., the president, Sir George G. Scott, R.A., in the chair, some fellows and associates were elected, and several donations to the library were announced. The secretary, Mr. C. L. Eastlake, read a letter with reference to a loan of architectural drawings for the Philadelphia International Exhibition.

A warm discussion was raised by Mr. C. F. Hayward in reference to certain advertising circulars and pamphlets which were found lying on the table of the Institute, offering 25 per cent. commission to architects. Several members took part, and resented what they considered an insult. The president thought it would be best to burn the papers, and for members to strike the offending tradesman or patentee off their lists, and not employ a man who offered such a gratuitous insult to the profession. Quite right, we think; and if justice was meted out properly, we know architects in this city who should long since have been struck off the list of both the English and Irish societies for accepting and pocketing double and treble commissions. The Rev. Mackenzie F. C. Walcott read an extremely long and interesting paper on "Old Clove Abbey." At the ordinary general meeting of yesterday (February 14) a paper on "The Erechtheum of Athens" was read by Mr. J. Fergusson, D.C.L., F.R.S.

THE ABBEY OF ST. MARY, GRAIGUE, KILKENNY.

In our last number we gave a sketch of the ruins of St. Mary's Church, in the Abbey of Duiske, Graigue, County Kilkenny. These ruins are an admirable specimen of the early English Cistercian work in Ireland, and stand out in strong contrast to the lighter and more decorated remains of French Cistercian architecture, such as may be seen at Bective or Mellifont. Built in the end of the Transition Period, the Abbey of St. Mary shows in its ruins traces of the change through which all church building was then passing; for, although we have the arches of the aisles pointed, and also the middle windows of the great western triplet, yet all the other windows, as seen in the sketch, are round-headed. The whole building, in truth, is a mixture of the early Gothic and the departing Romanesque.

The abbey was founded by William Marshall, Earl of Pembroke, the elder, in 1207, and was richly endowed by him, and by successive benefactors. It was a great and extensive pile. Up to the time of the suppression its history presents nothing remarkable. There are, during this period, numerous allusions to it in Clyn's and Grace's Annals. At the Reformation, Charles M'Murrough Kavanagh—a man of an unhappy celebrity—was the last abbot. By his measures the abbey and its lands were secured for his kinsman, James, the ninth Earl of Ormonde. From the Ormonde family the abbey passed into the hands of the Butlers of Galmoy, who were descended from the house of Ormonde. Excepting the period of the Cromwellian usurpation, the Lords Galmoy kept possession until the Williamite confiscations, when the abbey and lands were sold, and were purchased by the Agars of Clifden, in whose possession they now remain.

So remarkable were the ruins that they attracted the attention of the curious and learned in antiquities and architecture. Ledwich, in his notes to Grose, says that "The building was of great extent, and the architecture and sculpture, even in its present ruined state, excite our admiration;" while Trotter, in his Pedestrian Tour, writes:—"I do not except the celebrated Abbey of Tintern, in Monmouthshire, when I say that nothing could be found more venerable and beautifully-interesting in the empire than Graignamanagh Abbey."

The Domesday Book of Ireland, completed by King John, was kept in this abbey; and

the Annals of Duiske, long since lost, were compiled by a monk of this house in the beginning of the 16th century. All the abbey charters fell into the hands of James, the ninth Earl of Ormonde, who was the first lay proprietor, and they are still preserved in the Muniment Room in Kilkenny Castle.

The beautiful octagon tower, similar to the one which was at Tristernagh, County Westmeath, fell down in 1744. At present, the court of the abbey is traced with great difficulty, and, except the site, which is well known, there are now no remains of the splendid Chapter House, which was quite a *Rosa Rosarum*.

THE DWELLINGS OF THE WORKING CLASSES.*

It has frequently struck me that these two questions—the dwellings and the pastimes of the people—are at the root of our most grievous social difficulties; and I have ventured to bring one of them under the notice of this society. It is not because I consider that one more important than the other that I now direct attention to the first, but because I think it more ripe for discussion just now. I am quite one with a modern writer when he says—"Were I a law-giver and law-maker, I would ordain the training of the people to sports and games as an obligatory part of education;" and "that when a people has lost its susceptibility to fun, and its enjoyment of sport, even though it be childish, it has lost what no gravity can ever make up for." There is not perhaps any city in Europe so destitute of indoor or outdoor amusements for the people as Dublin is, and that with a population susceptible beyond all others to fun and enjoyment.

But whatever equality in importance there may be in these two questions, first, undoubtedly, in the order of necessity, is that of the dwellings of the people. To appreciate the necessity of a reform in this direction, we must have some idea of the present condition of these dwellings, especially in large cities. The vast majority of them consist of rooms in houses which had "known a better day," but from which fashion had lately or long since departed. In former days one family occupied the entire house; now, each flat—if not, as frequently happens, each room—has to accommodate a family. The appliances for comfort, for cleanliness, and for decency, are just the same for thirty or forty human beings that they were for half a dozen. The occupant of the ground floor may perhaps have water, &c., to hand, but every step we mount the surroundings necessary to health and decency disappear more and more. The miserable grate, intended only to air a bedroom for a few hours, is wholly inadequate to cook the meals, dry the clothes, and warm the only home of several human beings. There is no fresh water at hand—so indispensable for the cooking of the necessary meals—not to speak of that cleanliness we hear so often, so flippantly, and so cruelly demanded of the poor; but, on the other hand, the procuring of every drop of fresh water, and the removal of foul, entails on the inmate, however delicate or infirm, the toilsome journey of the stairs; and here the censors of the poor should remember they have no servants to perform offices which, to get done even second-hand, require energy and perseverance on the part of those who have servants at command. Indeed, I have very lately heard a kind-hearted resident of one of our fashionable streets, who had legions of strong, active servants, boast with laudable pride how he got water to every landing, light to every room, fuel at every door, to lessen the labour of those who were especially hired, one would imagine, for the express purpose of effecting these very objects. How terrible, then, must be the condition of some poor occupant of an upper storey, who can

* From a paper read at Evening Scientific Meeting of the Royal Dublin Society, by Mr. Charles Dawson.

Chelrish Butler

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command no sturdy hand-maidens, but on whose shoulders the accumulated duties of a cook, housemaid, washerwoman, marketer, and all the cares of wifedom and motherhood devolve.

But in wants alone the trials of the poor are not made up. We must also add the positive miseries consequent upon dilapidation—the un-repaired roof, which admits the winter's rain; the broken glass, patched to keep out the piercing wind; the broken floor; the dark and dismal hall and rickety staircase—all are sufficient to banish every higher instinct—to make man forget his nobler nature—and, reduced as he is to the level of a beast, drive him to habits unbecoming a man. Such are the old houses now used for the accommodation of the people. Unfortunately the new houses that have been built differ only from those I have described inasmuch that, never having been intended for better occupation, they do not possess at all even the limited aids towards comfort and cleanliness to be found in the older houses. Surrounded as the occupants of these tenements are with every inconvenience, and deprived of every facility, we must come to the conclusion that if the middle and upper classes had to struggle against all these inconveniences, they would also succumb to “dirt and untidiness.” Bad as uncleanness and discomfort may be, as results of the present house accommodation of the people, the evils arising from overcrowding and want of ventilation are still worse; rest and sleep should be according to nature's law, and nature's poet—

“Sore labour's bath, great nature's second course.”

Closeted in a fetid atmosphere, re-breathing their own and many other breaths; in rooms where half a dozen and frequently more are compelled to sleep, the sons and daughters of toil, instead of rising refreshed by the “chief nourisher in life's feast,” get up languid and depressed, with relaxed instead of braced energies, for the work of the coming day, and they are driven to seek in the stimulant of alcohol that energy which, under natural circumstances, nature would have herself supplied. And if we pause to ask what class is thus deprived of all the conveniences of life, and surrounded with its discomforts, we will find it is this very class which has the strongest claims to be supplied with the one and relieved of the other.

In this age of civilisation the idle poor have ample accommodation provided by law—the sick poor have palatial hospitals, supported by charity—and even the criminal poor are lodged in healthful, if not comfortable habitations; but the honest working man, the base of the social structure—has, as far as comfort, cleanliness, and decency are concerned, no home. It has often surprised me that more attention has not been directed in so philanthropic a city as Dublin, to this subject; but significant indications are not wanting to show that it is beginning to receive influential consideration. Quite lately, the Rev. Auditor of Trinity College Historical Society, in his inaugural address, is reported to have said:—“To talk of culture, where cleanliness is needed—to prate of history and philosophy where there is lack of food and clothing, is one of the most offensive forms of modern commonplaces. In any future worthy the ambition of Irish statesman or patriot, the industrial and sanitary reformer must do much unwilling and thankless work, before Ireland can, with a clear conscience, devote individual energies to her higher mission.” Though I do not advocate the abandonment of “higher missions,” yet I am convinced the highest part of the highest mission is that which strives to raise the great mass of our fellow-countrymen from misery and squalor, to that state of comfort which is due to our common humanity, and should be the characteristic of the citizens of a free country.

From the high and justly influential atmosphere of the judicial bench, I was glad to welcome the pronouncement of an eminent judge, touching this very subject. On a recent occasion, Mr. Justice Fitzgerald is re-

ported to have said, referring to one of the industrial classes—“Persons of this class had not the same comfort at home that the wealthier people had, and their houses were often so repulsive, that it was a relief to sit as long as they could in the open air.”

Lest it might be considered that the evil of insufficient house accommodation and all its fearful results, is peculiar to Ireland, I might refer anyone interested in the subject to the state of affairs in England. In a book which possesses a very melancholy interest, entitled, *The English Peasantry*, published in 1874, by Mr. G. F. Heath, special correspondent of the *Morning Advertiser*, the deplorable state of the dwellings of the people in the western counties is graphically described:—“Most of the cottages consisted of two rooms only: the wretched state of discomfort of a family of five, six, seven, or eight persons, often more, compelled to perform every domestic office in two rooms, can perhaps be better imagined than described. The tiny bed-rooms of each of the two-roomed hovels had to accommodate all the members of the family—father, mother, grown-up children, and sometimes lodgers, all sleeping in one room. Such a state of things is positively shocking, and produces worse results even than the direst poverty. What can the poor creatures do? They must have shelter, and they are forced into this indecent overcrowding by the lamentable deficiency of accommodation.” So far Mr. Heath's description of the western counties. The eastern counties don't seem to be much better off, if we are to believe the correspondent of the *Times*, writing from Ipswich, in May, 1874. “In Needham,” he says, “there are six cottages with two bed-rooms, and the number of inmates respectively is, 10, 8, 9, 10, 11, and 10. In Withersdale, three cottages with two bed-rooms contain 8, 9, and 11 inmates. I am sorry to add that there are two cottages with only one bed-room a-piece, in each of which nine persons slept.” In one cottage, where the living room was neat, the correspondent asked could he see the bed-room. It was twelve feet square, covered with four beds, which all but touched each other. The truth then came out. In this room slept the cabman, his wife, a daughter aged 24, a son aged 21, another 19, another 14, and a girl of 7.” Perhaps this society may be surprised to hear that in the homes of the peasantry in England we find that cause of reproach—but yet friend of the Irish peasant, the pig—so firmly established, encumbering, as in this country, the wretched and insufficient space, and, as here, discharging the important function of “savings' bank” and “paying the rent.” So patent is the degraded state of the English peasantry, as regards house accommodation, that the leader of our comic journals has thus parodied Mrs. Hemans' well-known lines:—

“The Cottage Homes of England!
Alas! how foul they smell;
There's fever in the cess-pool,
And sewage in the well,
With ruddy cheeks and flaxen curls,
Though thine tots shout and play—
The health of those young boys and girls
Too soon will pass away.”

“The Cottage Homes of England!
Where each crammed sleeping place
Foul air distils, whose poison kills
Health, modesty, and grace,
Who stabiles horse, or househ'ld kine,
As these poor peasants lie
More thickly in their straw, than swine
Are herded in a sty.”

English towns also supply sad evidences of insufficient accommodation and its lamentable results. In the *Globe* of the 29th of last month, we read of a coroner's inquest in Birmingham, at which the following evidence was given:—“The husband of the deceased woman said he slept on a bellows near the fire in one room of his wretched hovel; in the other room, in one bed, slept the mother, a son aged 21, and a daughter aged 17. The tenement was situated, said the coroner, who had visited the place, in a dirty ill-drained court, situate at the rear of the hotel in which they met, and not a stone's throw from the residences or places of business of six members of the Corporation.

Though the existence of these evils, on the one hand, or the apathy regarding them on the other, is not peculiar to either country, I must say that there is an amount of anxiety manifested upon the subject in the English boroughs which we look for in vain in English counties, or, with few exceptions, in Ireland. There is a reason given, however, for this interest taken in the well-being of the people in English boroughs, and for the indifference we find in English counties, and all over Ireland, which some of my hearers may be aware of, but into which, as it includes a political principle on which all are not agreed, I will not enter here.

(To be continued.)

WORK AND WAGES—THE BUILDING TRADE IN ENGLAND.

In the sister kingdom there are indications of another general demand for a rise in wages on the part of workmen. At Oxford the carpenters and joiners have decided to ask for an extra penny per hour on the 1st of March, and to adopt a new code of rules. The bricklayers at Barnsley have given three months' notice for an advance of 3s. per week. The central association of that trade body have, it is stated, £17,000 in hand; and, in the event of the employers not complying with their demands, it is intended to purchase lands, and build a number of superior houses, as there is a want of good dwellings in the district. The Plymouth masons have given notice to their employers that they intend to work no more piecework. The Hereford painters have asked their employers for payment by the hour at the rate of 6d.; wages to be paid at one o'clock on Saturdays. The Birkenhead painters have remonstrated with the town commissioners of that place for employing their market constables to paint the fountains in the market square. They say it is “an act of gross injustice to the heavily-taxed painters in the township,” as it debarred qualified journeymen from doing the work, a large number of them being unemployed at the time. The bricksetters at Wigan have asked for an advance in their wages of 6d. per day from the 1st of next April. The Erith dispute, in the neighbourhood of London, in connection with the engineers, has given rise to much discussion, in the Press and outside of it, on the merits and demerits of the piecework system.

DROGHEDA HARBOUR IMPROVEMENTS.

In his annual report, Mr. James M'Cartin, H.E., gives an account of the work done during the late year in straightening the river by cutting off the bends and removing other obstructions. Among other work done, he says:—

“The material taken out of the river during the nine months the dredger was working and also by manual labour amounts to 61,512 tons, and which was extensively made use of in forming and in giving additional strength to the river embankment, so as they can be made use of when completed as tow-paths by which the boats can be towed either by men or horses; or they may be used as tramways if rails are laid along them and the dredged material conveyed up the river on lorries for land-making or for other useful purposes. It is gratifying to me to be able to report to the board that the river and the entrance thereto are in a satisfactory condition, the sailing channel being free from those banks and shoals which heretofore caused so much detention to the steamboats, and to sailing vessels. It now maintains a uniform depth of about 6 ft. at low water, from which it will appear evident that with ordinary spring tide, and in the usual weather, a vessel drawing 17 ft. of water will have sufficient depth in the river to float her with safety into the harbour. In a former report I brought under the notice of the board the great advantage that would be gained by having at least a portion of the harbour in connection with the railway. That such a connection would increase the trade of the port, is in my opinion beyond a doubt, and I am confident that in a few years after its completion the annual income derived from harbour dues would be increased to double its present revenues.”

THE LITERATURE OF GOTHIC ARCHITECTURE IN IRELAND.*

"ROUND TOWERS"—A DIGRESSION.

THE late Richard Rolt Brash—how strange sounds the word "late," for when we wrote last upon this subject our esteemed collaborer in the field of archæology and architecture was living—in his "Notes on the Round Tower Controversy," states that he found that our towers were known by three distinct Irish appellations—namely *clugaugh*, *clugaus*, or *clochais*, and *giolcach*, or *quileach*. These names are written as they are pronounced.

The Rev. Richard Smiddy, whose book on "The Druids, Ancient Churches, and Round Towers of Ireland" we noticed several pages back, says that the universal popular name of Round Tower in Munster, Connaught, and other Irish-speaking parts of Ireland is *cúicéach*, or *cúictheach*, which he derives from *cúil*, a "reed," and *teach*, a "house"—that is, the reed, or reed-shaped structure. Mr. Smiddy, it must be observed, is the advocate, and, we believe, the originator, of the baptistery theory respecting the origin of our Round Towers. Dr. Petrie considered the first of the above names, as the *clocteach*, or *cloichteach*, of the Irish annals, meaning a round tower belfry, and so he has considered, and has had it translated in his work on the Ancient Architecture of Ireland.

Mr. Brash, in his "Notes," discusses in detail the derivation of the same local names applied to our towers, and gives the meaning of each as to be found in different Irish and Gaelic dictionaries. Without pursuing the subject in all its details, or going over ground a second time, we will come to the special theory adopted by Mr. Brash—the monumental and sepulchral. He writes:—"Another derivation suggests itself to me, of more force and probability than any of the preceding, and one the earnest consideration of which I would recommend to those more competent to analyse their etymologies than I am—namely, from *cloch-ais*, the stone of death; *Aise*, death. [O'Reilly's Dictionary]. *Aise*, death, applied to a dead person; a shroud. [O'Brien's Irish Dictionary].

It may seem strange to some that a tower should be called a "stone," but this is a figurative mode of expression very usual among the Irish. Thus we have, near Macroom, County Cork, a mediæval castle, called *cloch-Dhaibhi*, or "David's Stone," from the builder's name; another, in the same county, is called *cloch-Phillip*. At 2,174 of the *Annals of the Four Masters* [O'Donovan's translation], we have the Knight of Glin's Castle, on the Shannon, called *cloch-Gleannon*; and again, we have the oratory of the recluse called *cloch-Ancuire*—"The Stone of the Anchorite." Amongst the Highlanders, to the present day, it is customary to intimate going to church by the expression "going to the *clochan*."

The following are some of the reasons given by Mr. Brash that warrant him in concluding that the Round Towers are monumental and sepulchral:—"But some may ask why should a Round Tower be called *cloch-aise*, the 'stone' or 'pillar of death'?" My answer would be, because the pillar towers are monumental and sepulchral. I cannot now go into all the facts and arguments which suggest themselves in support of the theory, but would briefly state my reasons for holding the opinion. It has been the custom in the remotest ages, and amongst the rudest types, to set up some object to mark the resting-place of the distinguished dead, or to commemorate some remarkable event; thus, the pillar-stone became the prevailing monument of uncivilised nations, and was sometimes erected of a height that almost rivalled the masonry-built towers of more polished nations. All the megalithic monuments ascribed to the Celts are still found among the Khasia mountaineers in Northern India; amongst which are pillar-stones 80 feet in height, standing *crom-*

lechs, and marking the graves of their deceased friends. [See Hooker's *Himalaya Journal*.] At Carnac, in Brittany, exist pillar-stones from 40 feet in height. [See Deane's *Worship of the Serpent*.] In our own country, pillar-stones from 15 to 20 feet in height are not uncommon. The monumental pillar-stones of the Chinese go back to a date of near 1,000 years before our era. The Buddhist Minar, and the Jain towers of India are of a similar class. The Romans, likewise, adopted the hollow pillar, both for sepulchral and monumental purposes. On a tumulus at Cocomella, in Etruria, is a sepulchral Round Tower. Remains of conical towers surmount the tomb of Aruns at Albano. The hollow column of Trajan was erected by Apollodorus for a tomb, as a memorial of his victories. The column of Antoninus Pius was erected by Marcus Aurelius in memory of the Emperor. There are numbers of circular tower sepulchres at Palmyra; and in America the ancient form of sepulchre was a low circular tower, with a dome-shaped covering. We, too, in our day, have followed the prevailing fashion of antiquity: our cities and towns present numerous examples of pillar towers, which, though not sepulchral, are monumental and commemorative. And it is a curious and suggestive fact that national instinct so far overcame prejudice and theory that a pillar tower, after the veritable ancient Celtic type, has been erected to perpetuate the memory of Daniel O'Connell at Glasnevin [Cemetery], near Dublin."

Viewing the Round Towers from the Christian side of the controversy, there was nothing strange in the adoption of the pillar tower as a form of monument to O'Connell. The late George Petrie, the champion of the Christian theory, was, we believe, the designer of the O'Connell Round Tower; and, of course, he and his Catholic supporters and countrymen viewed a Round Tower as an ecclesiastical structure; and, knowing the fame and durability of these structures, thought that an imitation pillar would be a suitable monument for perpetuating the name and fame of O'Connell.

Mr. Brash adds "That the ancient Irish, in process of civilization, should be led to relinquish the lofty, unshapen, and ponderous pillar stone for the more symmetrical and aspiring hollow column, is but natural; and that they erected these columns, at least many of them, for sepulchral uses, is certain, if stubborn facts are to be relied upon."

But then, taking the thorough far-back Pagan view adopted by some out-and-out advocates of that side of the controversy, there could be very little civilisation in the country when these towers were erected, though the very masonry and scientific construction of the towers, on the other hand, would go to prove that when they were erected a high state of civilisation, at least in building matters, must have existed.

Mr. Brash says that the South Munster Society of Antiquaries were the first who turned their attention to the sepulchral character of our towns [towers]. The late John Windele certainly, with other members of the society, in 1841 made a series of explorations, and had the bottoms of several towers excavated. There were other excavations carried out in Ulster, at the instance of the late Edmond Getty, of Belfast. These explorations in some instances afforded a strong presumption in favour of the sepulchral uses of several of the Round Towers, as human bones were excavated.

In the remainder of his "Notes on the Round Tower Controversy," Mr. Brash brings forward more proofs in favour of the monumental and sepulchral theory, and disputes some conclusions drawn by the late Dr. Petrie; and he certainly proves our distinguished antiquary has made assertions which are not proven by facts.

The last paragraph of Mr. Brash's "Notes" will not be out of place here:—"Before I conclude, I would notice one singular fact. It may appear strange to the English reader that the Irish had no word to express a lofty

and tower-like object, but such is not the case; the word *Tuir*, s. m., signifies a tower or castle. *Tor*, s. m., a tower, a castle, spire, steeple. Welsh *tur* [O'Reilly's Dictionary; see also O'Brien's]. It is, therefore, very singular, if the passages above quoted alluded to the Round Towers, that so appropriate a designation in every respect was not adopted. The word is frequently used in the *Annals of the Four Masters*; thus at A.M. 3066, mention is made of the demolition of the *Tuir* [tower] of Conain; and again, at A.D. 991, mention is made of 'Taidigh of the *Tuir*.' Dr. O'Donovan in every case translates it 'Tower.'

The Rev. Mr. Smiddy, in his "Notes on the Celtic Language," annexed to his book already alluded to, writes:—"Turris," a "tower," of the Latin, and *purgos*, of the Greek, come from *tour*, "tower," of the Celtic. The roots of *tour* are *tigh*, a "house," and *ur*, "heavens," a house of the heavens, or an elevated structure. The name of a spire in the Celtic is *fith-neamhuigh*, "spire of the heavens." Our knowledge of the Irish language is but small, so we will not dispute Mr. Smiddy's derivations; they are worthy, however, of consideration.

We now come to the second paper of Mr. Brash's, which, like the first, was contributed to the *Ulster Journal of Archaeology*. It is entitled "The Belfry Theory Examined." In this paper our author proceeds to consider the question of the date and use of the Round Towers, as discussed by the late Dr. Petrie, in his work on the same. In the first place, he remarks "That the very early period admitted for the existence of these towers is forced upon the Christian theorist by the remarkably ancient character of those hoary structures, particularly one class of them, which, amidst all the reparations and mutilations they have undergone, still present to the archæological critic the type of an architecture which has no parallel in that of any known Christian people, but has a perfect and startling accordance with the Pagan arts of design and construction, as still exemplified in monuments of ascertained antiquity all over the world. . . . That the Irish converts erected belfries in the fifth and succeeding centuries, is improbable, and is likewise opposed to the testimony of architectural history, and to the negative evidence of our native annals. Belfries must, evidently, have followed the introduction of bells into Christian worship and uses. I say belfries, meaning high structures specially raised to hang large bells in, for it is an admitted fact that the custom of erecting lofty symmetrical buildings, ornamental, monumental, or commemorative, whether in the shape of obelisk, column, or hollow pillars, roofed in, is of unknown antiquity. Our present business, however, is with ecclesiastical towers erected specially for the purpose of suspending large sonorous bells in, to call the neighbouring community to the public worship of the sanctuary. The date of the introduction of bells into Christian solemnities is involved in much obscurity. Bells were used by the Etrurians, Egyptians, and Romans."

Mr. Brash next proceeds to bring forward a large amount of evidence of the early use of bells, and other sonorous instruments, or substitutes for bells, in the East and other countries, but he says the first mention of ecclesiastical bells is about the year 400. He concedes to Rome as the first to introduce bells into Christian worship, and he next examines the construction and character of her belfries, or bell towers. Step by step he proceeds with his subject, until, some centuries later, citing authorities, with a view to show that there was no similarity in the foreign towers with those at home, said to be designed for belfry purposes. The form and construction of the Venetian towers are described, and the circular towers of Ravenna, which the advocates of the Christian origin of the Round Towers pointed to as evidence sustaining their cause. In all the foreign structures described, Mr. Brash certainly succeeds in showing that there was but little likeness in any of them to the Round Towers of this

* See ante.

country, save in their circular form. "I have been thus minute," he proceeds, "in describing these ancient towers from reliable and trustworthy sources, in order to show that there is no resemblance whatsoever between the circular towers of Italy and the Hiberno-Celtic, except in the circular form. What other points are there in common between those stair-cased, many-floored, and many-windowed structures, with their columned dressings, their brick-ornamented string-courses and cornices, and the tall, slender, tapering, exquisitely-proportioned, yet massive masonried tower of Ireland, with its stone-lintelled, cyclopean doorway, its few and diminutive window-opes, usually square or angular headed, its four attic windows facing accurately the cardinal points, and its overlaid stone roof?" We confess we do not discover any other points of similarity worth speaking of. The architectural details of the Ravennese towers, Mr. Brash thinks, would place their erection as far back as the eighth, or as late as the tenth century. Again, he says:—"That bell towers originated in Italy is beyond all manner of doubt; we can trace their progress into Northern Italy, into Southern France and Germany, where the Italian type of tower is plentiful to this day; nay, the influence of that original form was felt through Christian Europe; and even in Britain, the so-called Saxon towers, such as Earls Barton, Sompting, Brixworth, &c., in their square form, vertical panelling, coupled windows, with column or baluster shaft, and cushion capital, point unmistakably to the original Italian type of bell tower. . . . It is quite sufficient for me to establish, as I hope I have done, that we have no authentic record of the erection anywhere of lofty stone or brick towers specially for the reception of ecclesiastical bells before the eighth century; nor have we any reasonable grounds for supposing that such were in use previous to that date. The ages generally assigned to the oldest remaining towers in France and Germany, and to those in England, usually called Saxon, is consistent with the date given for the introduction of bells and bell towers in Italy, allowing a reasonable period to elapse for the gradual introduction of this new feature in ecclesiastical architecture, and taking into account the difficulties of communication then existing, the dislike of innovation, and the troubled state of Christendom in those remote and semi-barbarous ages."

At this point Mr. Brash says he leaves it to his readers to conjecture, if they can, how the Christian Irish came to have bell towers in the fifth, sixth, and seventh centuries.

In our next paper we will show how the late Dr. Petrie accounts for the early erection and use of the Round Towers as belfries, and how cogently Mr. Brash combats his statements.

HANDICRAFT AND HANDICRAFT TOOLS.

HAMMERS.

(Continued from page 39.)

IMPACT.

BEFORE considering the elements upon a combination of which the almost extraordinary powers of hand hammers depend, it may be well to set aside a few minutes to remark upon the circumstances under which this power is being actually developed. The development takes place at the instant of contact of the moving hammer with the struck body. Such contacts as those of hammers belong to that department of mechanical philosophy called "impact." Impact is pressure of short duration, so short that, compared with the time in which the velocity of the impinging body is being acquired, it is inappreciable; or, if the comparison be between the spaces passed through by a hammer-head before impact and during impact, then, generally speaking, the disproportion is the same, and the space passed through after impact is almost inappreciable when compared with the space passed through before impact.

It may assist in realising the source as well as the magnitude of the power of a hammer, if, departing a little from the strict scientific use of the words, the dynamical effect of impact be compared with what may, for the sake of approximating to an idea, be called the statical effect of pressure. We are so much more accustomed to associate power with weight alone, than with mass and velocity combined, that perhaps for our present purpose those who may detect a flaw in the following reasoning will kindly overlook it in the interests of those who may thus appreciate a measure for the energy of a hammer.

Let any one attempt to drive a nail vertically into a horizontal piece of timber by the statical effect of the simple pressure of a load on the head of the nail, the load being placed on the head gently, as weights are laid in scale pans. Let the depth to which the nail is thus moved be measured. Again, let the same nail, under the same circumstances, be driven to the same depth by the impact of a hammer-head, then it may for our present purpose be said that the load placed on the nail is a representative statical measure of the impact of the hammer. It will be admitted that, although not faultless, this is a representative and approximately accurate method for comparing the effects of hammers under all ordinary circumstances.

Now, although in any given case the work in a hammer consequent upon its mass and velocity may be very great, yet utilising the whole of the work produced in the expenditure of the accumulated power in the hammer depends upon the resistance met with at the instant of impact. The more perfect this resistance is the greater will be the value of the work done; hence the practice of using massive anvils firmly fixed and the necessity for staying all vibrations in the body struck. Let any one attempt to drive a nail in a board not firmly supported, and then by the use of the same means drive a similar nail into the same board supported, and he will appreciate the importance of resistance to the progress of a hammer's motion if the full effect of a blow be desired. The only exception to this is to be found in the blows given to minerals, which are to be cleft and not crushed. In their case it is desired to give only such a blow as shall accomplish the cleaving; any surplussage of energy if expended on the material would of course produce fractures over and above the required cleavage. Provision must be made for the dissipation of this superfluous energy, and it is done by placing the mineral in an elastic holding, the nature of the required elasticity being determined by experience, different substances requiring different elasticities in the supports by which they are being held for cleavage. Were that elasticity not there, then when in consequence of the blow for cleavage only, having accomplished the cleavage and expending the remaining energy upon the mineral, it is obvious that the next weakest line of cleavage would yield, and the next to that, and so on until the mineral would be actually first cleft, and then crushed. Hence destruction rather than fracture would take place.

Illustrations of the principle thus enunciated were before you in the breaking of stones on the highway, the elasticity now referred to being transferred from the mineral support to the handle of the hammer which gives the blow, also in the flaking of flints, the elasticity being obtained by holding the mineral in the hand and supporting it on the knees. The splitting of brilliant diamonds is perhaps a case in which these principles and considerations claim the greatest care. Through the kindness of Mr. Montanjes, of Red Lion-street, Clerkenwell, I have in my hands the diamond splitter's hammer, chisel, and elastic anvil. The anvil is of wood, in shape not unlike a nine-pin, but tapered at the lower end so as to be placed upright in a coned hole in a small block of lead. On the head of the nine-pin is a flat, on which by means of cement the diamond to be split can be firmly fixed. Placed here so that the

plane of intended cleavage shall be vertical when the wooden anvil is in the lead block, a deep scratch is made by a second diamond, in which scratch the edge of the splitter's chisel is to be planted. The diamond splitter's chisel is very like an old razor. As illustrated, this chisel may be observed in the workman's left hand, in his right he holds in somewhat of a delicate fashion that which is his hammer. The hammer is a plain steel rod about 8 in. in length, and tapering from about $\frac{1}{2}$ in. diameter in the middle to $\frac{1}{4}$ in. at the end. The very construction of this peculiar hammer gives the operator a large range for precise and graduated blows; within certain limits, he can most carefully arrange that the path of the centre of percussion, the place of impact, the line bisecting the angle of his razor-like chisel, and the expected plane of cleavage of the diamond shall coincide, hence, with great coolness and the absence of all hesitation, he gives a blow, upon the effect of which many hundreds of pounds may depend.

To deal, however, with hammers (including under that term for the present purpose axes, hatchets, adzes, and picks), the following question claims careful consideration: What power or energy is in a hammer of known weight moving at a known velocity if brought to a state of rest by impact on a block? Another question also suggests itself: Can this impact effect of a hammer be converted into simple pressure, and be stated as a load or weight placed, where the impact was requisite, to produce the same effect as the impact did? If the mode for solving the first question be made clear, then the answer to the second can be readily obtained. The measurable elements which affect the result are a variation in the mass of the hammer-head and a variation in the length of the handle. By a varied mass there is a varied weight in the hammer; by a varied length of handle there will, with the same muscular effort, be a varied velocity in this mass, and upon a combination of mass and velocity depends the produced energy. Now if a mass of metal moving at a known velocity strike an object, the energy of that blow results entirely from the conditions at the moment of impact. For example, the work in the hammer as it strikes the nail does not depend upon its velocity through the arc, but only upon the velocity when commencing contact with the nail. Hence so long as the material which gives the blow and the mass of it are the same, it is not of any consequence how the velocity was accumulated. It may result from centrifugal or rectilinear action; it may result from muscular effort, or from steam pressure, or from gravity.

It may now be obvious that other elements remaining unchanged, whatever accelerates the velocity of a hammer increases according to very clear rules the energy or power of the same hammer. Hence the tendency of contrivances as manifested in the additions to steam as well as handicraft hammers; for example, in the early lift hammers, those which in some parts of the country are still considered as producing the most perfect and best of hammered work, the "wiper" was so shaped as to throw the hammer very high. The ascent was checked by a powerful spring, and thus the ascensional energy was reversed and added to the accelerating force of gravity downwards, and so not only was the intensity of the blows increased, but the frequency of them also. This spring took the place of that muscular energy which brought the hammer down with intensified effect.

In another arrangement the "wipers" acted upon the hammer-head directly, and threw it very forcibly against a large wooden elastic beam. These constitute what were formerly called "tilt" and "lift" hammers.

Hence, also in steam hammers, all muscular effort to intensify the blow is transferred to the steam, and all consequences of centrifugal action, whether from hand or tilt hammers at the ends of arms are removed. Further, in steam hammers, now-a-days, the steam operates to check as well as to inten-

sify the blow. This checking action is called "cushioning," and it seems to do in the steam hammer what holding a flint in the hand does in a flaking hammer, or an elastic handle does in a sledge-hammer, or the cement and wooden anvil does in diamond splitting; it relieves the rigid fabric or erection from jar or destruction. "Cushioning" is brought into play by admitting steam for the purpose of checking the intensity of the blow due to the action of gravity alone, or of steam combining with gravity upon the hammer. Hence the perfect control over large steam or air-worked hammers, and the rapidity with which the intensity of the blow may be changed. Such control as this over a sledge-hammer is beyond our bodily powers. We may intensify the blow of this large hammer, but we cannot, except just experimentally, and for the purpose of display, bring the restraining power of the muscles to diminish the energy of the descending hammer.

The branch of the subject now occupying our attention seems to have been much dwelt upon by the designer of the Anglo-American dead-blow power hammer, of which a large acting model is on the table. To Messrs. Collier, of Salford, who are the makers, we are indebted for the model. It is driven by a strap, and holds a place intermediate between a handicraft and a power-driven tool. The principal novelty in it is the intervention of a semicircular spring between the crank pin and the tup, and the power is obtained as follows:—When the hammer is set in motion, the tup is snatched up by the action of the crank pin, and the spring is compressed, and, by the combined motion of the spring and crank pin, the tup is thrown within the spring with great impetus. The crank pin then passes the top centre, and the tup is thus met by the spring and thrown into it, causing it to be again compressed, when by the downward motion of the crank pin, the spring throws the tup on the anvil with great velocity.

THE DEVELOPMENT OF THE IRISH FISHERIES.

OUR contemporary the *Mail* has recently and on former occasions directed particular attention to the Irish Fishery question—how it stood formerly, and its present state. There can be no doubt that our fisheries have been sadly neglected by our own countrymen, and that our people have often been starving, with a mine of available wealth almost under their feet. We do not care to touch upon the troubled sea of Irish politics, and show the shortcomings of Irish members of Parliament; but we could wish that some of these persons would perform an act of practical patriotism by devoting their attention to our fisheries and waste lands. We give an extract from the conclusion of an article in the *Mail* on the past and present state of our fisheries:—

"What, then, is our remedy? For the Government to render our fishing harbours fit for vessels to enter; to open the west coast fisheries, now unused, to the Dutch and other foreigners, with liberty to cure on shore; our own people to follow the example of the Cornish, Manx, and Scotch men, who come hundreds of miles to our shores to reap the ocean harvest, which we are glad to say the Howth, Kingstown, Arklow, Ardglass, Wexford, and Kinsale men are doing. Home Rule oratory and buncomb will effect nothing. Let Mr. Mitchell-Henry and other Home Rule capitalists try the west coast fisheries, bringing Arklow, Howth, or Ardglass men to teach their fishermen. There are harbours at Galway, Greenore, Portrush, Westport, Killala, Mullaghmore, and Lough Swilly, close to railway stations; and Clifden, Belmullet, Killybegs, and the Rossea, where fish can be cured. Action, not oratory, is required to open the Irish fisheries—not begging from what Home Rulers facetiously call 'an alien and Saxon Parliament.' 'The Society for Bettering the Condition of the Irish Poor' has about £30,000 to lend, the surplus of English charity during the Famine of 1821; and the Government have a further small sum from the same source, which those able to give proper security can borrow."

Ireland is awfully behind the sister kingdom in regard to her fisheries. The Isle of Man cures, it is stated, quadruple the quantity of what Ireland does, and the most, if not all, this fish is taken on the Irish coasts. The construction of new piers and harbours, and the deepening and dredging of existing ones, are necessary in the developing of our fisheries, out of the Consolidated Fund.

RESTORATION OF ST. MARY'S CATHEDRAL, LIMERICK.

RESPECTING the above some particulars are given in a daily contemporary under the head of "Limerick Intelligence." We annex the "news," and we may remark that we have no doubt but Mr. Street can do the work of "restoration" as well as most architects. Some of the remarks of the Lord Bishop of Limerick, however, tend to create a smile. "He was sure if the Restoration Committee brought Mr. Street to Limerick and told him the history of the cathedral, he would give them his best assistance." His lordship has an odd way of expressing his meaning. In the annexed report referred to the reader will probably draw his own conclusions:—

A meeting of the "Restoration" Committee has been held for the purpose of taking immediate and effective steps towards the repairs and decoration of the above cathedral. The Lord Bishop of Limerick presided, and there was a large attendance of members. The chairman said the whole fabric of the building would have to be put into good order, and then, and not till then, should the work of decorating and beautifying begin. They all knew what Mr. Street was doing with regard to the restoration of Christ Church in Dublin. He was a man of great learning, and took a deep personal interest in ecclesiastical architecture, and he was sure that if the committee brought Mr. Street to Limerick and told him the history of the cathedral, he would give them his best assistance. Then the question arose—what was to be done regarding the interior? There would be some difficulty in deciding the best course to take, but he believed that difficulty would be overcome. Some people might say that painting of the walls of a church is something of a sham; they say, "you ought to be content with plaster and whitewash." He did not think this a correct view of the subject. In the first place a great deal of painting may be done in the way of ornament. What is beautiful in nature may be represented in a conventional way; the desire being not to impose on any body, but to make the building, which is used in the service of God, beautiful after a certain fashion. This had been done by mural decorations, which were first introduced in the eleventh century, and of which we have examples in the principal churches in Europe. There would, therefore, be nothing inconsistent with the architecture or history of the cathedral in adopting this style of decoration.

On the motion of Mr. Hunt, it was resolved—"That the restoration of this cathedral having been suspended since the death of the late Hon. Mr. O'Brien, it is desirable to make an effort now to raise funds for continuing the work; but before commencing any works the advice of Mr. Street be obtained."

CARLINGFORD LOUGH AND GREENORE.

INSTITUTION OF CIVIL ENGINEERS (LONDON).

AT the eleventh ordinary meeting of the session, held on Tuesday evening last, Mr. Geo. Robert Stephenson, president, in the chair, the paper read was on "Carlingford Lough and Greenore," by Mr. James Barton, M. Inst. C.E.

The mouth of Carlingford Lough was sheltered by a natural breakwater of rock, leaving a channel about 700 ft. wide. Across this channel a bar of blue clay and boulders had existed previous to the works described, the depth of water being only 7½ ft. at low tide. Within the lough the water was more than 18 ft. deep at low water over an area of 1,200 acres, affording safe anchorage. Although the cutting of a channel for navigation through this bar had been recommended by the Tidal Harbours Commissioners and by the Refuge Harbour Commissioners, it had not been carried out as a public work, but

was undertaken locally under the Piers and Harbours Act, and was authorised by Parliament in 1864 to be executed by a board of commissioners, for which purpose a sum of £80,000 was lent by the Public Works Loan Commissioners on the security of expected tolls. The exposed position of this work was somewhat unusual for dredging. The number of days in the year when the weather permitted the dredging to proceed, varied from a minimum of sixty-seven in the year 1871, to a maximum of one hundred and thirty-one in 1873, and upon many of these days the work was limited to two or three hours. The materials raised per season varied from 50,000 tons to 99,720 tons; the clay was generally blue and plastic, with boulders embedded, varying in size up to 4 tons in weight. The dredging plant had been specially designed, and was constructed by Messrs. Simons and Co., of Renfrew; it dredged in water 85 ft. deep, and lifted stones up to 30 cwt.; the larger ones were chained by divers and raised by a crane on the vessel's bow. The average lift for all days on which the dredger worked, whether one hour or sixteen hours, had been 850 tons; the maximum tonnage raised in one day was 4,000 tons. Some rock inside the lough had been removed by first blasting on the surface with dynamite, and then dredging the broken-up rock. The channel already formed was 18 ft. deep at low water of spring tides for a width of 300 ft., and a further width of 50 ft. at each side had been cut to a depth of 14 ft. at low water. The channel was intended to be 600 ft. wide, and 18 ft. deep at low water. The cost of the works, including insurance of plant and parliamentary contests, &c., had been approximately 1s. 9d. per ton. The cost of the actual work for any one season varied from 1s. 4d. to 1s. 6d. per ton. Two leading lighthouses had been erected to guide vessels through the channel, which was about ¼ mile long. Within Carlingford Lough a point stretched out to the edge of deep water from the south side called Greenore, and here, 3 miles inside the bar, a marine station had been constructed and a railway to it formed from the Irish North-Western Railway at Dundalk, and another was in process of construction from Newry. This point afforded special facilities for a fixed hour steam service to Holyhead and elsewhere. The works at Greenore had been designed to provide for the convenient loading and unloading rapidly of steamers, with passengers, cattle, and goods, and to provide for the necessities of each kind of traffic, so as to enable the passengers to land and embark without contact with either goods or live-stock traffic; and yet that these should not be inconvenienced, but that each should be done in the best way. The arrangements were explained by diagrams, and a system of hydraulic machinery raised and lowered the landing stages. There were two berths for steamers and a collier berth, and one of the former was deep enough to accommodate grain vessels afloat alongside having a depth of 18 ft. at low water. Movable lifting landing stages, to suit the steamers at all times of the tide, were provided, by which passengers were sheltered and under cover until embarkation, and special arrangements were provided for communicating with these stages with a novel description of stairway, in which the steps maintained their horizontal position, whatever inclination might be given to the frame which carried them. The quay wall at the sea end was founded at a depth of 21½ ft. below low water, and at the upper berth, of 18½ ft. The foundations were excavated by dredging, and were levelled by divers. The front of the land end of the wall below low water was formed of concrete blocks of about 3½ tons, set by divers, and the back face of the wall had been formed of concrete in sacks, containing about 1 cubic yard each, put down soft, and built in courses; and the heaving was of concrete deposited soft. The foundation at the sea end had been formed of concrete blocks of 100 tons each, built upon the beach

above low water in frames, and lifted, carried, and lowered between two barges by special machinery worked by hand. Two of these blocks, one upon the other, formed a length of 10 ft. of the wall up to low water. Above low water the wall had been built of heavy rubble limestone masonry, and it was fendered throughout. The fenders for the steamer berths were necessarily of special construction, inasmuch as the lifting stages had to be free to move behind them; they were formed of heavy wrought-iron box girders stayed by diagonal struts, by which the pressure was carried down to the foundations. The cost of the works at Greenore had been £130,000. The cost of the quay wall, 45 feet high on an average, had been, including extras, £27 8s. per lineal foot. The concrete used was 1 of Portland cement to 6 of sand, gravel, and stones. The cost of the concrete blocks of 100 tons each, when set, exclusive of barges and machinery, had been 30s. per cubic yard. That of the concrete built in the back face of the wall in sacks had been 82s. per cubic yard, while the cost of the liquid concrete set in the foundations had been 18s. per cubic yard.

STREET OBSTRUCTIONS.

IN an article under the above heading which appeared in our issue of April 1st, 1875, we observed that "north and south of the city the obstructions in our streets are intolerable, from their nature and magnitude. Earl-street and Talbot-street, from once being respectable and well-managed thoroughfares, are now nothing more than markets." Since the above date the facilities for traffic have not improved; the contents of purveyors' and butchers' shops are still brought out beyond their limit; awnings are illegally put out to protect the perishable goods from the weather; from the casks of pigs' heads and cheeks flows their briny juice, to the great annoyance of pedestrians. In some few cases the police do their duty. Last week a butcher in Great Britain-street was summoned for having caused an obstruction by exposing meat for sale on a bench outside his shop-door, his plea being that his shop was too small. Frequent complaints had been made, and several persons had had their clothes injured. The magistrate said "it would be a great matter if some of the Dublin butchers would take a trip to the Continent, and see how the butchers' shops were conducted there. Abroad these shops were pictures of cleanliness and neatness, while in Dublin the very reverse seemed to be the case. He would not inflict the penalty this time, but cautioned the butcher against a repetition of the offence." Whilst the authorities in many provincial towns are moving in the matter of "obstructions" on public thoroughfares, it seems strange that the metropolis is so far behind. The police should be compelled to do their duty.

ART PROSPECTS IN DUBLIN.

IN the course of his speech at the Lord Mayor's banquet, the Viceroy spoke of the contemplated Government measure for the enlargement and consolidation of our metropolitan institutions devoted to Science and Art purposes. At last we have a distinct promise that in the matter of grants and buildings the State will act in a liberal spirit towards this country. A Museum of Art and Science on a broad basis has long been needed in this city, so that facilities would be afforded to all classes for study, as is the case in London and Edinburgh. We would like to know something of the precise nature of these Governmental plans, and we trust that in carrying them out there will be no running counter to native instincts. At the same time, we welcome any measure tending to advance Art education and scientific instruction in this country, for on it will depend much of our future national prosperity.

In a letter read last night at the meeting of the Royal Irish Academy, from the President of the Committee of Council on Educa-

tion, it was announced that a scheme had been laid before her Majesty's Government, by which it is proposed to establish in Dublin a National Library and Museum of Science and Art. The details are not as yet made publicly known.

GAS MELODIES.—No. I.

THE INFALLIBLE GAS-METERS; OR, THE GAS COMPANY V. ROBERT TAAFFE.

Air.—"The Night before Larry was Stretched."

Dedicated (without permission) to W. F. Andrews, Esq., Manager, Gas-Meter Factory.

The day before "Christmas of old,"
Certain tinkers Kilminkham did visit;
Their business was cunning and bold,
And quite certain they were they'd get thro' it.
Von Kon-o-li, with accent so grand
(Wherever the devil he stole it),
Above all error, there took his stand,
And the Chairman at once did allow it,
To Calico's very great joy.

So disgusted was Taffee with the licking,
That he scarcely knew how to go home;
"Och," said he, "but I'll get such a picking
For contesting a debt I disown!
An appeal from this judgment I'll enter,
My present mistake rectify,
And the Judge he will surely unfetter
My case from the tinkering lie.
And explode the infallible dodge!"

At the hearing, the adviser did state
That the sun he might halt in the heavens,
But the meter wheels always rotate,
And thus make out a tot for their owners;
That the book accounts were always checked off,
The figures never changed for a job (?),
Overcharges for gas were seldom heard of (!!!),
And appellant owed nearly twelve bob—
So said Calico, Kon-o-li, and Co.

Then came the appellant, and stoutly he proved
That he for a long time believed
He was charged for more gas than ever he used,
And tried from such charge to be freed;
That he shut out the gas, and locked up the key,
For three months but burned paraffin.
Then came the collector, who to him did say,
"Two thousand you've used—you're sucked in,
For your gas-meter it could not be wrong."

With his nose most contemptuously curled,
In language mellifluous and rich,
His lordship with unction delivered
For the public his judgment, in which
"Infallibility," he said, "I won't know;
But I know common sense when I hear it!
The profound judgment of the court below
I reverse, and with costs I decree it!"
Astounding the tinkers about.
Now the fable of old tells us without doubt
All concerned cannot like what's being done.
In this case, the tinkers, having "got their shirts out,"
An appeal, I am told, they've begun.
In the "European world they will urge all the courts"
Their infallible tests to uphold!
Should failure be their's, "from mischievous reports,"
They will then try the virtue of gold.
"With either Bismarck or the Pope!"

41 Cuffe-street, 8th Feb., 1876.

JAMES KIRBY.

[The poet is rather "free and easy" in his metre, in dealing with other meters; but if we must, we must, give him a poet's licence in dealing with unlicensed proceedings.—Ed. I. B.]

LAW.

COURT OF EXCHEQUER.

(Before Mr. Baron Deasy and a Common Jury.)

Patrick Hughes v. Samuel Robinson.—An action to recover £184 for an alleged breach of contract. It appears that defendant, a builder and contractor, carrying on business at Westland-row, in this city, entered into an agreement with plaintiff to supply 500,000 bricks at £1 per 1,000, for works undertaken by defendant at Kilonan Castle, County Roscommon, the seat of Colonel Tenison, the same to be manufactured at or near the place where they were to have been used. After plaintiff had made 316,000 the defendant objected to the class of article supplied, and stated that it was useless for him to continue longer at the works, whereupon he left, stating that he was right glad to get out of the place. This defendant relied upon as constituting a rescission of the contract sued on. Plaintiff, however, stated that all through he had expressed his willingness to complete his contract, and that he had never rescinded it. Mr. Frederick Morley, architect, and others, deposed that the bricks supplied by the plaintiff, and complained of, were carelessly burnt and badly made. On the other hand, plaintiff and his men stated that the bricks were of excellent quality. The jury were discharged without agreeing to a verdict.

(Before the Lord Chief Baron and a Special Jury.)

William R. Cussen v. the Rev. Patrick Canty. P.P.—This was an action for alleged breach of

contract, damages being laid at £1,000. Plaintiff is a builder, residing at Templemore, and defendant is parish priest of Kilcommon, Tipperary. Plaintiff alleged that he contracted with defendant to build a chapel at Kilcommon, according to plans and specification furnished by Mr. McCarthy, architect; that defendant was to supply all the building stone, lime, and sand, and to deliver those materials at the site of the proposed edifice; that defendant failed to do so, and, in consequence, plaintiff was unable to proceed with the work, and lost thereby the profits of the contract. There was a count in the summons and plaint for £394, money alleged to be due for work and labour and materials supplied by plaintiff. The defence was substantially a traverse of the cause of action, and a plea that defendant had supplied the materials, but that plaintiff wrongfully abandoned the work before its completion, and neglected or refused to proceed with the undertaking. Defendant had lodged £219 16s. in court, in full satisfaction of plaintiff's claim. After two days' hearing of the contradictory evidence usual in all such cases, and which is not worth reporting, the jury found a verdict for the plaintiff, giving him £80 over and above the sum lodged, and costs.

HOME AND FOREIGN NOTES.

ROYAL HIBERNIAN ACADEMY.—This year's Exhibition of "Painting, Sculpture, and Architecture" opened yesterday at the Academy House, Lower Abbey-street.

THE "ROSSE" STATUE.—The committee have been informed by Mr. Teniswood (Mr. Foley's executor) that the statue of Lord Rosse, to be erected in Parsonstown, is now completed.

WAGES.—The house painters in Newry have given notice that on and after the 1st prox. they will require their wages raised to 28s. per week.

IMPENDING STRIKE.—The builders' labourers in Limerick have given notice that after the 4th prox. they will demand an increase of 2s. weekly to their wages. The masters have held a meeting and resolved to resist the demand. A strike and starvation, of course!

The Methodists of Mountmellick propose to erect a chapel and schoolhouse, to be called the "Gideon Ouseley Memorial Chapel."

"PICTURESQUE EUROPE."—Under the title of "Picturesque Europe," Messrs. Cassell, Petter and Galpin announce a work which has been for several years in preparation, and which will present a complete descriptive and elaborate pictorial illustration of the greater part of the European continent, by bringing together, in a form never before attempted, representations of the numberless objects of Nature and of Art which make Great Britain and the Continent so pre-eminently picturesque. Exquisitely engraved steel plates and engravings on wood will be given from original drawings, executed from recent sketches taken by eminent artists. The first part will be published on the 1st of March.

"LIGHTHOUSES."—On Wednesday evening Mr. John R. Wigham (of Messrs. Edmundson and Co.'s, Capel-street) delivered a lecture on the above subject at the New Coffee Palace, Townsend-street. The lecturer exhibited well-executed models and diagrams of lighthouses, and illustrated the subject by experiments showing the different means adopted for illumination. He also spoke of the cost of erecting and maintaining lighthouses and lightships, and gave interesting details respecting their management, &c. He contrasted the beacon fires of olden times, and the lighthouses that existed at the beginning of the present century, with the lighthouses that are now to be found on the coasts of these countries, and pointed out the beneficial nature of the more recent improvements made, especially in the means of illumination. Mr. Wigham also alluded to the introduction of gas into lighthouses, and shewed by illustrations on lenses and powerful reflectors the relative illuminating powers of colza and paraffin oils and gas.

TO CORRESPONDENTS.

ARCHITECT (Kingstown).—Thanks for the offer. We agree with your remarks. With every facility before them our professional Irish architects are neglectful of their interests in the matter of their drawings. The photo-lithographic process enables them to give the public a specimen of their works at little or no cost to themselves. If their drawings are worthy productions. We are always ready to oblige in these matters, but there are some members of the profession who are not satisfied with a good photo-lithograph, unless it is accompanied with a long and dishonest "puff." A STAIRCASE HAND.—Falling moulds are not necessary. The methods given in Nicholson's work are complex. The best work of the kind we know of on "Handrailing" is that by Riddell.

Received—Hiberno-Scot (Edinburgh); will be forwarded with thanks—J. R. (Cork); anticipated, as you will see—R. E.—M. L.—Ex-Officio (N.D.U.)—C. C.—W.—F. I., &c.

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NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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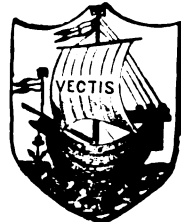
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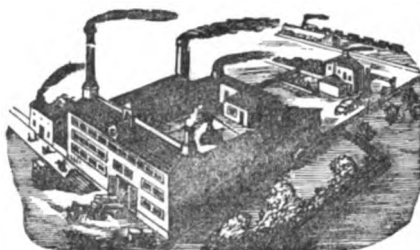
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JOURNAL OF ENGLISH AND FOREIGN LITERATURE, SCIENCE, THE FINE ARTS, MUSIC, AND THE DRAMA. CONTAINS:—Reviews of every Important New Book, English and Foreign, and of every new English Novel—Reports of the Learned Societies—Authentic Accounts of Scientific Expeditions—Criticism on Art, Music, and the Drama—Foreign Correspondence on Subjects relating to Literature, Science, and Art—Biographical Notices of Distinguished Men—Original Poems and Papers—Weekly Gossip.

THE ATHENÆUM is so conducted that the reader, however distant, is in respect to Literature, Science, the Fine Arts Music, and the Drama, on an equality in point of information with the best-informed circles of the Metropolis. Office for Advertisements, 20 WELLINGTON-STREET, STRAND, LONDON, W.C.

The Irish Builder.

VOL. XVIII.—No. 389.

Our National Institutions, and the Government Scheme.



HE proposed Government scheme for the amalgamation, or rather the absorption, of our native institutions in Dublin devoted to Science and Art, suggests manifold considerations. We confess at the outset we have our misgivings upon the subject. We yield to none in our desire to extend the benefits attending the wise development of the facilities for art and scientific education in Ireland, and of establishing libraries and museums for the same objects; but our experience of the system of management and control, and the nursing adopted at South Kensington of late years, have made us naturally suspicious of the value of such fostering care when applied on this side of the channel.

The propositions laid down in the Sandon document of the Science and Art Department, now under the consideration of the Royal Dublin Society and the Royal Irish Academy, raises some momentous issues. The scheme as it at present stands is in an immature state, but it is sufficiently clear to understand its whole scope. The reports of the councils of our Dublin bodies are not yet made public; but, without prejudicing the case, we are of opinion that neither the Royal Dublin Society nor the Royal Irish Academy, as bodies, could subscribe *in toto* to the Government scheme without inflicting an injury on this country, and seriously damaging their own credit. Our two Dublin institutions are trustees for the people of this country in the matter of certain valuable property and interests, and they must think twice before they pave the way to the surrender of these valuable trusts and privileges which they have hitherto exercised. The Government scheme carried out in its entirety would at once and for ever destroy the historical reputation, and blot out the individuality of both the Royal Dublin Society and the Royal Irish Academy—the former institution boasting of an honoured career of nearly 150 years, and the latter nearing upon 100, and both existing as chartered bodies.

The museums of our Dublin institutions contain objects of priceless value; and though these may be allowed to exist, and the members like others of the public have access to the institutions, yet the members in course of time under the new scheme will become mere ciphers, and eventually all truly national interest in these bodies may die out. A Government grant, whether extended or not, is not in the nature of a charter or fixed and unalterable contributions. Governments change, and grants are liable to diminish, and economy brings absorption and centralization. This country has already experienced the evil effects of centralization carried to extreme limits—of centralization first fostered by absenteeism, and still extending. We are not clannish, but at the same time we desire to see our institutions “racy of the soil,” *adscriptus glebæ*, and directed by the best

artistic and scientific minds our native land can produce.

Before proceeding further on the immediate issues involved in this Government scheme, we will take a short retrospect bearing upon matters and proposals in connection with several of our Dublin institutions. Long years before any proposal was made respecting increased Government grants in aid of our Dublin bodies, suggestions were ventilated by native Irishmen and members of our native bodies with a view to their better management. Upwards of thirty years ago we had more institutions in Dublin devoted to Art purposes than at present. Some of these, during their short career, effected some good; but they failed to secure continued support. If the money that was scattered and wasted betimes in the conduct of these bodies had been husbanded, and the efforts in their behalf concentrated to enlarge existing institutions, a great deal more might have been accomplished for the interests of Science and Art in this country than has been. In fact, with proper native efforts, our principal institutions in Dublin might be in a flourishing condition, and though still entitled to Government grants, would not be dependent upon them. About the year 1844-5 our literary and scientific institutions in Dublin were as follows:—The Royal Dublin Society, the Royal Irish Academy, the Irish Archaeological Society, the Royal Zoological Society, the Geological Society, the Dublin Natural History Society, the Dublin Philosophical Society, and the Royal Agricultural Society. For the promotion of the Fine Arts, we had the Royal Hibernian Academy, the Art Schools of the Royal Dublin Society, the Society of Artists, which was founded in 1842; the Irish Art Union, founded in 1840; the Society of Ancient Art, founded a few years later, and the first Institute of Irish Architects, founded in 1839. Now this was a pretty goodly array of representative talent. The Dublin reader need hardly be reminded that some of the above archaeological and artists societies have ceased to be, several years ago.

During the time that the above societies *in globo* existed it was suggested that the Government should be pressed to give £2,000 a year, if the public contributed £1,000. It was proposed that this income should go to a new Hibernian Academy, composed of the present Hibernian Academy, the Society of Artists, the Society of Ancient Art, the Art Schools of the Dublin Society, and the first Institute of Irish Architects. The above proposition was worthy of consideration, and might have worked well at the time it was proposed, if undertaken. The property and effects of the several bodies would have been merged in one, a larger building would have been secured, and schools, museums, library, lecture rooms, &c., would be the natural outcome. No action, however, was taken to carry out any enlarged scheme for the promotion of the Fine Arts, and as years passed over, one institution after another ceased to exist for want of support. It was pointed out thirty years ago, and since, that the Royal Dublin Society was very heterogeneous in its objects. It was certainly founded for the promotion of husbandry and other useful arts. Its services in the cause of agriculture have been certainly great, if not always wisely directed. Its museums and gardens had their great uses; but, as it has been remarked, they were more fitted for scientific investigation than practical instruction; its

library proved a great service, and was always available; and last, though not least, even in far back years, with all their shortcomings, the Drawing Schools of the Royal Dublin Society were a great boon to the students of Art in this city.

Fault was long since found with our Royal Irish Academy, because it united anti-quarianism with abstract sciences, and that alternately, at its meetings, its members discoursed on mathematics and history. Even so, it did good service in both fields, and at a time when no other body was acting in the cause of scientific research in Ireland. As an institution devoted to antiquities and literature, but particularly in the former, the Royal Irish Academy has shown a good reason for its existence. Whether the divorcing from the Royal Irish Academy of its scientific department long years since, as proposed, and getting Trinity College to form some voluntary organization for the purpose, would have resulted in good we are not prepared to say just now; so, in the light of present events, it is unnecessary to discuss the subject. Useful reforms and changes could, however, have been carried out years ago, which were not; so “coming events,” which cast their shadows before, are now before our eyes, and they should be looked steadily in the face by those who are answerable for the safe guardianship of our national trusts.

The conditions that accompany the increase of grants for Art and Science in Ireland strike at the root of the Royal Dublin Society and the Royal Irish Academy as national institutions; and, however necessary increased facilities and aid may be in the matter of Art and Science in this country (and we must acknowledge it as indispensable), we are not among those who can subscribe to the Government scheme in its present shape.

It has not been found necessary to absorb London art and scientific institutions existing on a similar basis as our own—some possessing charters, and others receiving State aid. Why should increased grants to Ireland be made contingent to surrendering the direction and control of our native institutions, and foregoing all the rights and privileges appertaining to and exercised by the members of these institutions? Our National Institutions ought to be as worthy of intact preservation as our National Monuments.

We will again return to this important question.

THE REVIVED GALWAY-AMERICAN TRANSATLANTIC PACKET STATION.

WE are among those who always believed that a Galway Packet Station, for direct intercommunication between this country and America, could be made a successful enterprise, and it would afford us much pleasure to see that the renewed attempt to establish a company for the purpose proved successful. The subject is dealt with in a pamphlet before us, by Mr. J. G. V. Porter, in which the pros and cons of the enterprise are discussed in a rational way. The Lever Company of 1858-1863 failed, not alone through mismanagement but through a deliberate conspiracy got up and sustained on the other side of the Channel. The failure of the past is no argument against the enterprise of the present. If the necessary capital is subscribed, honest management can make the new undertaking a profitable and prosperous affair, a good investment to shareholders, and a benefit to this country. The Midland Railway Company

have agreed, by resolution, to give an abatement of 30 per cent. off cross-channel passenger fares to and from Galway and American steamboats for five years.

It is proposed, according to the published statement, to have the head office in Dublin, and to run first-class passenger steamboats once a month each way, in view of a future service once a week, between Galway and New York, to begin in May, 1876, at the same time with the new London and North-Western service by quick steamboats at fixed hours (not tidal) between Holyhead and their new North-wall Terminus, so that passengers between London and Galway will step from boat to train without any break. Also because the great Centennial, or first, Exhibition, of the various produce of America will then open at Philadelphia, and will attract unusual numbers of tourists this summer from Europe. Also because this new company will thus have the summer months to get its officers, crew, and whole system into the best practical order—if not in May, 1876, to wait till May, 1877. Shares to be £100 each, and list of names and addresses of their holders, with their several amounts, to be distributed to all co-partners once a year, in order to keep the company in the hands of solvent and independent men, able to take care of themselves, and to shut out mock shareholders, and to prevent jobbing. Balances of shares paid up in full in advance of calls to bear interest. Amount of capital, £500,000, in 5,000 shares. To begin with four vessels and three crews, one vessel in turn to be always in reserve. To insure one-fourth in value of each vessel, till their number reaches 12, and then the company to bear its own risks and to save this item.

Pending further information to be afforded at a meeting to be held on Friday, March 3, we will reserve some more remarks favourable to the undertaking, which we hope to see firmly re-established. We would, in the meantime, refer all interested in the project to peruse Mr. Porter's pamphlet on the subject—published by Mr. John Falconer, 53 Upper Sackville-street. If we should add one word more to investors, it would be to study the matter for themselves when the whole particulars are before the public, and to beware of "croakers."

THE DUKE OF ABERCORN ON ART STUDY AND THE PROPOSED MUSEUM.

We print below the concluding remarks made by the Lord Lieutenant on Monday evening after the distribution of prizes to the students of the Royal Dublin Society's Schools of Art:—

You need not be afraid that I propose to enter into any discussion upon art in general on this occasion. I will only reiterate that which I always endeavoured to impress upon those whose pursuit is to be the study of art in its various phases—namely, that the art of the student can hardly remain stationary, and that in order to reach the highest degree of art, it is necessary to strive after something more than the mere realistic and material representation of the object which he sees before him. Nature, no doubt, is always correct and beautiful; but Nature, like man, has also its frowns and its smiles, its lights and its shadows, and the highest art is that which can catch and embody the transient gleams which give light, life, and variety to the inanimate scene, or to the countenance of man. Nor is this confined to those higher degrees of Art, of which sculpture and painting are the exponents. It is, I think, also applicable to those lower degrees of decorative art for which designs, whether for fabrics, for furniture, for carpets, or for any of the other decorative wants of life, are required. For example, a leaf or a spray in its purely realistic form may be uninteresting, but give a small inclination to the leaf, or a slight artistic arrangement to the spray, and they at once become objects of beauty and interest. The leaf of the bay tree in itself has no great intrinsic beauty, but wreath it round the brow of an antique Greek warrior, and it becomes a noble and perennial work of art. I say, therefore, to the student in decorative as in other art, do not be satisfied with your success in the mere realistic representation of the study before you, but

remember that this is only a step to the higher art in which ideality is embodied upon realism. But, ladies and gentlemen, whatever may be the innate genius of the student, without instruction and example he cannot fully develop it, and this brings me to a point of the highest importance to the art world of Ireland—which has been already ably alluded to by Mr. Kelly—I mean the arrangement which is proposed by Government by which the art and science societies of Dublin will be bound nearer together, and by which greater assistance will be given both as regards art study and grants from the State than they have hitherto received. I can quite understand that there will be some difficulties in this arrangement, but I trust that due regard will be paid to those societies in Dublin which have hitherto so well and so liberally sustained the reputation of art in Ireland, more especially to the Royal Dublin Society, which, as we have been told this evening, is the parent society of all similar ones in Europe. I trust that due regard will be paid to their wishes in any arrangements that the Art and Science Department may make. But as regards the art students of Ireland themselves, I believe that the arrangement proposed, if it can be carried out in its integrity, will be of unmixed advantage. Hitherto, of the art students of Ireland, only those few who have been able to attend the Art Schools in Kensington have had access to the highest exemplars in the different departments of Art; but under the arrangement proposed every Art student in Dublin will find in the loan which will be sent from the Kensington Museum—and the specimens will, no doubt, be selected with the greatest care for whatever is best and most approved in the various forms of decorative art—the means of guiding his talents, and forming his taste according to the best and most approved models of artistic merit. I am confident that the boon thus conferred will be one that will be of the highest and most important advantage not only to the students of the present day, but to those who follow hereafter.

THE LAY OF THE CORPORATION.

What means this strange procession,
At the dawning of the day?
And what are these huge iron carts,
Oh! tell me now, I pray?
The horses walk with steady step—
'Tis a funeral! I trow.
For the men do follow close behind,
With measured step and slow.
Oh! whence this strange procession?
And who those aged men?
Are they from *Simpson's Hospital*?
And who has died, and when?
Then as I spoke, at last the Sage
(With questions grown weary)
Had turned to me with smiling face,
And answered thus my query:
"Oh! one is for Drumcondra,
Where the mud is two feet deep,
And one is going to Stephen's-green,
To take away a heap;
And one is going to clean the quays,
Where scented zephyrs blow,
And one is bound for Sackville-street,
Where the noble plane trees grow!"

F. L.

THE ROADS IN LIMERICK.

Mr. Duffin, Surveyor of the Western Division of the County, made a rather extraordinary statement to the grand jury respecting the state of the roads. It was notorious that they were in a disgraceful condition, but this he attributed to the fact that *the contracts were taken too low, owing to great competition*; and he further stated that the reports of his assistants did not harmonise. He was asked why he did not dismiss those assistants, and in reply stated that this was the first complaint, but that in future he would act differently. A committee was appointed to investigate the matter.

SANITARY AND OTHER NOTES.

OBSTRUCTIONS continue in our streets and upon the footways; and, without pressing unduly upon shopkeepers, it is absolutely necessary that their goods should be kept within some defined limits, or the law enforced for their entire removal. The give-and-take principle attempted to be established between certain shopkeepers on one side and the Corporation on another is unsound, and cannot be acceded to without constant danger to the public. Since our last issue a number of adjourned summonses against shopkeepers in Talbot-street and Earl-street for obstructing the public footway, by exposing goods for sale outside their shops, came on for hearing. Mr. Morgan Kavanagh (instructed by Mr. Thomas Kane) appeared for the defendants. The

evidence had been gone into on a former day. Mr. O'Donel inflicted a fine of £2 in one case, and intimated his willingness to state a case for the defendants. In back streets the public do not object to slight encroachments upon the footways, but in leading thoroughfares the obstructions which we have had so often to complain of cannot be tolerated. Mr. O'Donel, in the Northern Divisional Court, on the 25th ult., said, *re* Mr. Joseph Kavanagh, provision dealer—"That in order to have the decision of the highest tribunal on the question he would hold that it was an offence to expose goods for sale outside a shop in the city. He would, therefore, fine Mr. Kavanagh £2, and would state a case for the Queen's Bench. Counsel for the defendants said they would take the matter into the Queen's Bench, and have it finally decided. The same magistrate, in sentencing a man to two months' imprisonment for stealing a pig's cheek, said that he "considered the manner in which goods were exposed for sale offered very great temptation. Were it not that the law compelled him, he would be disposed to give those who persistently placed their goods out into the street in this way very little relief."

BRAY.—The surveyor of the local board here is directed to report on the state and general position of Bray dock, with a view to some improvement there. He stated that £1,000 would be required for the improvement in question. A sealed order was received from the Local Government Board sanctioning the new Bray fair arrangements. Several projects are at present under consideration at Bray for increasing the attractions of the place, but they have not, as yet, assumed a definite form. Amongst them is the erection of the proposed promenade pier, off the E-planade, and the association with it of an extensive and varied aquarium. A skating rink is also spoken of.

BALDOYLE.—At the Coolock Presentment Sessions, Mr. Bell, the county surveyor, said the contractors were bound to remove all the mud that was taken off the roads in the year, but they could not be expected to remove the accumulated mud of 20 or 30 years. Mr. Morgan, on behalf of the Dublin Corporation, said they were prepared to undertake the cleansing of the streets of Baldoyle without additional cost on the rates. The streets were at present never visited by the scavenger. Mr. Dawson thought the Corporation should clean the mud off Dublin streets before they turned their attention to Baldoyle. Mr. Plunkett said the Corporation should begin by building something like respectable houses on their property. Mr. Morgan believed they would soon see the desired improvements. The presentment for Baldoyle was passed conditionally, the Corporation subscribing an additional £10. The duties of the Corporation have been for years systematically neglected at Baldoyle, and the Corporation property there shamefully mismanaged.

ATHY.—The Union Board at this town advertised for contracts to build a wall round Davidstown graveyard. Out of a number of tenders Mr. Brennan's was accepted, at 9s. 6d. per perch. One of the conditions in the specification was that there should be a foundation consisting of three feet of solid masonry. The wall having been finished, the surveyor to this board furnished the contractor with a certificate to the effect that the work was finished in a masterly manner. Since that certificate was given it was ascertained that, instead of a foundation of solid masonry, pits or "derks" were sunk at certain intervals in the ground, into which the required three feet of masonry was built; the side and surface of the soil between that and the next pit was covered over with stones and mortar, so as to give it the appearance of a solid wall. On the discovery the surveyor was sent for, the foundations re-opened and the entire re-measured. In his second report the surveyor says:—"It is now proved plainly that there were 'derks' or pits sunk in the foundation in several places, and built up with stones or mortar to represent a solid wall. It was these pits that were opened for me when I measured the wall on the 23rd of June, 1875. I find it now to contain only 176½ perches Irish measure, at the rate of 9s. 6d. per perch, amounting to £83 16s. 9d., showing a difference of 83½ perches from the former measure, amounting to the sum of £39 13s. 3d." The cost of the first certified work amounted to £123 odd. After a debate in the board, a resolution was proposed and carried, to the following effect:—"That this board express their want of confidence in their measurer and surveyor, and that he be dismissed from their service. That the case of the contractor be placed in the hands of their solicitor, Mr. Lord, for prosecution, and that the necessary steps be taken by him to have the money refunded to the union. Also that the present contract for the construction of a sewer in Barrack-street, by Mr. Brennan, be rescinded."

THE ROYAL DUBLIN SOCIETY.

At the evening scientific meeting of the society in Kildare-street, Dr. Mapother in the chair, Mr. Richard Jackson Moss, F.C.S., keeper of the minerals, and analyst of the society, delivered a discourse on "Spectroscopic Research." He traced the history of this interesting branch of chemistry from the observations on the refraction of light made by the Arabian Alhasin, nearly 800 years ago, down to the discovery of a new metal within the last few months. He explained how the light of the sun is analysed, and the beautiful method by which the atmosphere of our luminary has been proved to contain the substances which enter most largely into the composition of the earth. He referred to the discovery of several elementary substances by means of the spectroscope, and exhibited the peculiar characters of the light emitted by various metals and gases when rendered luminous by the heat of an electric spark. He said that these new methods of chemical analysis are undoubtedly destined to supersede to a great extent many of the more elaborate and less accurate processes hitherto employed. Although the spectroscope has had a profound influence on modern conceptions of the universe it did not appear to have been sufficiently utilised in the analyses of mineral substances; therefore, many important contributions might hereafter be expected from it. A number of interesting experiments were performed, and amongst the most beautiful illustrations was the reproduction from a photograph of solar protuberances or jets of flame, observed round the dark disc of the moon during a solar eclipse. The fantastic shapes of these were very remarkable. It was calculated that one of them rose to a height of 180,000 miles from the surface of the sun in ten minutes; and the spectroscope proved that they were referable to volumes of burning hydrogen. It had also ascertained the presence of the same element in temporary stars.

The chairman, on the part of the audience, expressed his hearty thanks to Mr. Moss for his interesting lecture.

There was a good attendance at the meeting, a number of ladies being present. The assemblage then adjourned to the Natural History Museum, for the purpose of viewing the two stuffed specimens of the gorilla, which have been recently placed there.

THE ARCHITECTURAL ASSOCIATION OF IRELAND.

An ordinary general meeting was held at the rooms of the Association on Thursday evening, February 24th, Mr. J. Holmes in the chair, when a paper on "Contracts" was read by Mr. H. C. Brett, B.E., which we publish on another page.

Mr. W. J. Fennell, in proposing a vote of thanks, said that an architect should be careful in dealing with the question of ancient lights, and should not undertake responsibility in that direction. A schedule of prices, or bill of quantities priced, should be mentioned in the contract for after reference in paying for extras, &c.

Mr. J. J. O'Callaghan, in seconding the vote of thanks, regretted the small attendance at the meeting. He agreed in the main with what Mr. Brett had laid down in his paper, which he considered a most valuable one. Quantities should not enter much into the contract, except they were taken out by a surveyor, and approved of by all parties to the contract. The prices of the different items in same should be carefully looked into, and a just ratio should exist. He thought the question of "extras" an important one, and that there was no doubt an architect had great difficulty in dealing with same at times, particularly when a crochety client was in question, and mentioned some instances. He also said that an architect should have the sole power of ordering extras, and should put everything clearly before the client.

Mr. A. W. Robinson said that the architect was not bound to undertake responsibility as to ancient lights or other extra things of that kind without extra remuneration, and should be very cautious in doing so. He thought that arbitration should be more availed of, and that the system adopted in the London courts of justice, of referring disputes in building cases, which were almost always matters of account, to the masters of the court, or other eligible party, for arbitration, and making the decision a rule of court, was a more satisfactory way than leaving them to a jury.

The chairman, in putting the vote of thanks, which was carried unanimously, said, amongst other things, that he considered arbitration was the proper way of deciding building cases, and should be more availed of.

Mr. H. C. Brett, in returning thanks said that he agreed with Mr. O'Callaghan in what he had said about the schedules of prices, and that he had not much confidence in them; that attention should be paid to the clause mentioned; that written orders from the architect should be had before responsibility of client for extras is incurred.

ARCHITECTURAL ASSOCIATION (LONDON).

At a meeting of this association held on the 18th ult., the president, Mr. John S. Quilter, in the chair, several new members were elected. It was resolved that the Birmingham Architectural Association should be admitted a branch of the London Association, subject to the condition stated in the draft rule which has been adopted as one of the rules of the association. The Rev. Mackenzie E. C. Walcott, B.D., read an interesting paper "On the Characteristics of Ground Plans adopted by the Greater Conventual Orders of England." In the discussion that followed, Messrs. Blashill, R. Morrison Marnock, Lacy W. Ridge, W. E. Ferrey, and others took part. On the 12th ult. a visit was paid by several members of the association to some churches in progress at Stoke Newington; and on Monday last, 28th ult., a visit on the part of the association took place to Messrs. Cubitt's, the eminent building firm, where the whole of the departments, including the iron-founding, were shown in full work.

THE ROYAL DUBLIN SOCIETY'S SCHOOLS OF ART.

On Monday evening the prizes awarded by the judges to the successful students of the Royal Dublin Society's Schools of Art for the year 1875 were distributed by his Grace the Lord Lieutenant in the Lecture Theatre.

Mr. Charles Kelly, Q.C. (hon. sec.), after conveying the thanks of the society to his Grace for so kindly consenting to preside on the occasion, made a lengthened statement as to the history of the schools since their establishment in 1749. As to the efficiency they had attained, he mentioned that Lord Sandon, on the occasion of a recent visit, expressed himself as highly pleased with what he saw, more particularly with the excellence of the cabinet and lace designs. It appeared from a minute of the society that in 1749, considering that the establishment of a public free drawing school would tend to promote the advancement of Art, they provided a large room suitable for the purpose in Shaw's-court, Dame-street; and in this they were followed by the Society for the Encouragement of Arts, Manufactures, and Commerce in London, now known as the Society of Arts: so that their institution was the parent of all those of that description that were subsequently established throughout the United Kingdom. Their schools had produced some of the most eminent artists in every branch. The Government were now about to take these schools out of their hands, and to establish a large museum like that at South Kensington, which would place the society on a much better footing.

The report of the Head Master (Mr. R. Edwin Lyne) was read by Mr. Davis (Chairman of the Fine Arts Committee)—a very interesting statement of progress, position, and prospects, and one of the best that has been issued. We have not time or space in this issue to deal with it at length. The Head Master, in drawing a comparison with other schools, says:—"I may observe that the total number of National awards made to the whole of the schools of the United Kingdom since their institution in 1866 to the present time has been 1,546. This society's school has obtained one-nineteenth of the entire number of such awards, although competed for by an average of 115 schools of art, one-seventeenth exclusive of those gained by South Kensington, and one-thirteenth exclusive of those taken by South Kensington and other London schools of art. The work performed by this institution in advancing and disseminating such education throughout Ireland has greatly led to that general and active interest that has been awakened in all matters relating to art progress, and which has encouraged and justified the Royal Dublin Society in urging upon the Government on several occasions the expediency of establishing a museum of Art adjacent to our schools—an application which has so recently met with such favourable consideration from the present Government."

The number of works selected to enter the National Competition of last year was 52, and 5 awards were obtained. Those works competing for the third or highest grade, 45, were awarded to 36 students. In the local examinations of April and May last year, 164 students were examined in one or more of the subjects of the second grade, viz., in freehand drawing, practical geometry, model drawing, and linear perspective, when 92 succeeded in passing successful examinations in 133 papers, 106 certificates, 27 prizes, and 14 full certificates were gained.

During the past year the attendance has been as follows:—Day classes: males 52, females 272; evening classes: males 171, females 161, showing an increase of 43 over the attendance of last year, and 96 over that of 1873. Of these, 231 males and 125 females were students of the artisan classes. The total number of attendances of students has been 1,5047. The fees show an increase of £26 odd over those of 1874. Compared with the above attendances, South Kensington has been only 744 and Manchester 478 students in the corresponding period.

His Grace having distributed the prizes, made some suitable remarks, the concluding portion of which, touching on Art study and the proposed museum, we print on another page.

It is but strict justice to say—whatever may be the shortcomings of the Dublin Schools of Art—that they can compare favourably with any in Great Britain, and that Mr. Lyne has no occasion to feel otherwise than glad at the progress made. Apart from this, however, in an Art point of view there are matters which suggest themselves respecting these Schools of Art which we may discuss on another occasion.

TECHNICAL EDUCATION—PRIZES FOR WORKMEN.

The Goldsmiths Company, London, with a view to the advancement of technical education in the design and execution of works of art, have announced several valuable prizes to be competed for annually. The competitors are to be British subjects. We suppose this proviso includes natives of Ireland, although this country, geographically speaking, is distinct from Great Britain. Originality of design is requisite to secure any of the prizes. A future exhibition of the designs may be held at the company's hall. There is also a travelling scholarship of £100 per annum offered to the most able student. We would like to see a few more of the city companies following suit, and generously expending a small portion of their large funds for the advancement of art and superior handicraft.

THE LITERATURE OF GOTHIC ARCHITECTURE IN IRELAND.*

BOTH Dr. Ledwich in the last century, and Dr. Petrie in the present, have endeavoured, with a show of learning, to establish the belfry theory of our Round Towers; but their argument fails in essential points. Petrie brings us back on the subject of bells in Ireland, and their use in Ireland, to the fifth, sixth, and seventh centuries; but Ledwich leads us on as far as the ninth century, if not later. Both antiquaries have adopted the Christian origin of the Round Towers; yet, strange to say, the Danes, to whom Ledwich credits their erection, were Pagans. Ledwich, however, in his "Antiquities of Ireland," endeavoured to fix the date of the conversion of the Ostmen or Danes in the following fashion, to give strength to his Danish belfry theory:—"And here I must note an error of Walsh [Peter Walsh, the learned Franciscan, author of the 'Prospect,' &c.], which he has lapsed into from following Ware. The latter places the conversion of the Ostmen in 948, whereas I have proved from a coin of Ivar that they were Christians in 853. Walsh not knowing this imagined, from the construction of our Towers in 838 to the evangelizing of these Ostmen in 944, these steeples must have been used for watch towers, which their situation in vallies makes highly improbable. But from the coin before mentioned, it now appears there was but an interval of 15 years from the date of their erection in 838 to the time of Ivar's coin in 853; and this is nothing if we consider the loss of ancient memorials, and if they had survived we should have found the date of their conversion and of building these Towers exactly synchronized. Though they were not built for watch towers they certainly might have occasionally served to alarm the vicinity."

Walsh's statement was (and we believe we quoted it already in the early portion of these papers), "That it is most certain these high, round, narrow towers of stone, built cylinder-wise, were never known or built in Ireland (as, indeed, no more were any castles, houses, or even churches of stone, at least in the north of Ireland) before the year of Christ 838, when the heathen Danes, possessing the greater part of the country, built them in several places to serve themselves as watch towers against the natives. Tho' ere long, the Danes being expelled, the Christian Irish turned them to another and much better (because holy) use, that is, to steeple houses or belfries."

This Danish belfry theory was also adopted by Molyneux, and is appealed to by Ledwich, who triumphantly asserted that for the space of 542 years—that is from Cambrensis to Molyneux—the opinion of every author who wrote upon the subject, "is uniform in pronouncing them Ostman or Danish works."

Having reverted a little to the belfry theory in the past, we will now return to Mr. Brash's discussion of the question. He continues:—"In order to give some colour to this early erection of Towers in Ireland [the fifth, sixth, and seventh centuries], Dr. Petrie has attempted to establish the use of bells in this country at a very early period; his authorities are monkish legends and lives of the saints of the most apocryphal character, whose statements, as the truthful and erudite Lanigan ['Ecclesiastical History of Ireland'] has shown if not entirely unworthy of credit, must at least be very unsafe upon matters of fact. Various passages from these legends are quoted by that learned gentleman, such as that St. Patrick, who came to Ireland A.D. 452, abundantly distributed bells; that he had a bell-ringer, one Sinell, who rang the bell in the Cloigteach; that he had three artificers, named Asiocus, Biteus, and Tassach, who fabricated such utensils with admirable art; that one Dageus was a famous bell-founder in the sixth century, and that he not only fabricated 'bells, croziers, crosses, &c., but

also shrines; and that though some of these implements were without ornament, others were covered with gold, silver, and precious stones in an ingenious and admirable manner.' How unlikely all this is to be true must be apparent from the following considerations:—The early Irish missionaries were poor, zealous, fervent, simple in manners, plain in attire, rigid in morals; they brought with them neither silver, gold, nor precious stones; their language was that of the apostle of old to the blind man at the Beautiful Gate of the Temple—'Silver and gold have we none, but such as we have give we unto you.' They came to preach the gospel of peace to a nation of idolaters, and the weapons of their warfare were not carnal but spiritual."

Mr. Brash holds that the introduction of bell towers into Ireland at the period or periods assigned by Dr. Petrie is contrary to the negative evidence of our native annals; and that, admitting for argument's sake that the word *Cloigteach* meant a bell-house, yet no mention of a belfry under that appellation occurs before .D. 950, which is the earliest instance produced by Dr. Petrie. There is fair argument here, as also in the fact that there are various terms for our churches and different parts and classes of ecclesiastical structures, particularly and repeatedly mentioned centuries previous to the above date; but no mention as to a *Cloigteach*. The natural inference drawn by Mr. Brash is that no belfries existed, that such appendages were not in use, for had they, such imposing structures would not have been passed over in Ireland, when oak churches, or oratories (*Duirtheachs*), porches (*Erdlams*), and kitchens (*Curcines*) are specially referred to. Mr. Brash also holds the opinions previously expressed by other native writers, and subscribed to by ourselves that "it is highly improbable that the early Christians in this country would erect such a lofty, imposing, and enduring structure as a Round Tower, for the mere purpose of hanging a bell in it." The diminutive size of our early Christian churches is pointed to, and this has often been remarked by native writers, and more than once by ourselves, in connection with this subject. A number of these early churches, whose antiquity approaches nearer to the date of the Round Towers, are much smaller in dimensions than those of a later date, and their workmanship is certainly much inferior to the Towers. Under such conditions it is impossible to think that the primitive builders of these churches could erect such massive buildings as our Round Towers, entailing a great amount of time, labour, and cost, for belfries or adjuncts, and content themselves in erecting mean and diminutive churches, in comparison. And, again, as we on a previous occasion remarked, the earliest churches of all must have been constructed of wood, though these were doubtless replaced by stone. The churches intended for the worship of God would naturally receive the most attention and care, and would have been considered more important than the building of a mere adjunct.

Adopting Dr. Petrie's theory for the moment, we would be forced to conclude that the ecclesiastics who built our Round Towers as belfries and adjuncts to their churches, must have acted in the most wild, fantastic, and inconceivable manner. The cost and labour of erecting a Round Tower would have paid for erecting some of the primitive churches, when even of stone, twice or thrice over. With the exception of two in Scotland, the fact is also to be noticed, as it is by Mr. Brash, Round Towers of the Hiberno-Celtic type are not to be found in any other place where our early Irish saints and missionaries have settled. "Those two towers at Abernethy and Brechin," writes Mr. Brash, "happen to be in that portion of the country which came under the dominion of the pagan Dalriads of Ulster, and whose entire topographical nomenclature is partly Irish."

Mr. Brash furnishes a list of the foreign religious schools and monasteries established

by the zeal of Irish missionaries between the fifth and eighth centuries. Particulars of the founders of these establishments and other matters will be found in the writings of Bede Aldhelm and Willebrod, and in the works of our Irish Colgan, Ussher, Ware, Lanigan, and in Adamnan's *Life of St. Columba*, edited by Dr. Reeves. After enumerating these numerous missionary establishments in the British Islands and on the Continent, Mr. Brash writes:—"Now I ask is it not a very singular and significant fact, that if a Round Tower was a purely ecclesiastical structure, and a usual and necessary adjunct to our primitive churches, why is it that among hundreds of churches founded by the Scotie [i.e., Irish] saints and missionaries in foreign lands not one can exhibit a Round Tower—no, not even in memory or tradition? Surely such zealous men as Columba, Brendan, Senan, Kilian, Kieran, &c., who had Round Towers standing in proximity to their native monasteries or churches, would, if such were really essential ecclesiastical requisites, have introduced them in the various places where they preached the doctrines of the Cross, and founded churches. St. Columba has certainly been traditionally a great church builder, yet we have no trace of a Round Tower in any of the numerous localities in Scotland where he is said to have built churches; to my mind the argument is a perfectly conclusive one against these towers being of Christian origin or uses."

The above extracts from "The Belfry Theory Examined" are certainly a piece of clear and able reasoning, and will be conclusive to many who are not wed to another theory by any peculiar inherent prejudice or antagonistic warp of mind. For ourselves we have stated already that we have no distinct theory to propose or uphold on the question of the origin or uses of our Round Towers. We incline, as we said before, to their Pagan date, and, therefore, we are of necessity no subscribers to the belfry theory. We are free to admit, at the same time, that some of our towers have been utilised for belfry and some other purposes described in these papers, though not originally designed or erected for such uses.

Further proof is added by Mr. Brash with a view of showing that the form and finish of the tower precludes the idea that they could ever have been intended as belfries, and he considers it is fatal to the belfry theory "that there is not a single tower that presents any original preparation for hanging a bell. Had the towers been erected for this purpose, the builders, keeping an immediate eye to their particular uses, would have made a solid and substantial preparation for suspending the bell by inserting beams of durable oak and leaving solid corbels of stone projecting internally as a foundation for the framework necessary for that purpose. Now I have myself examined most of the Irish Round Towers, and have never found any such original preparation for the hanging of bells. In such of the towers as are at present used for belfries, holes had to be broken for the insertion of the requisite supports; and the violence requisite to accomplish this has in many instances been the cause of permanent injury to the structures. For instance, at Ardmore, where a bell was hung until recently, two rude rough gaps were made internally in the conical cap, into which a beam was inserted; the breaking of these holes has greatly injured the roof by displacing the masonry, while, to allow room for the bell to swing, the piers below the attic windows have been cut away and hollowed out—the whole operation having been productive of great injury to this structure. Any practical builder who has carefully examined the towers cannot fail to be struck with the makeshifts resorted to in adapting some of them to the purpose of belfries. The holes for the timbers are invariably rough gaps in the masonry, not regular, neatly-built openings formed during the progress of the original building; this is also particularly observable in those towers in

* See ante.

which floors have been introduced, where rude joist-holes are observable broken thro' the internal masonry."

In the preceding quotation as well as in the former one, we must say that Mr. Brash evidences practical knowledge as to the construction of our towers, and in doing so affords clear illustration. It is plainly and conclusively shown, it must be admitted, that the ope at the tops of our towers were not constructed for belfry purposes. The Ardmore Tower, mentioned by Mr. Brash, is the one described by Mr. Smith in his *Natural and Civil History of Waterford* (1746), and Smith's words are triumphantly quoted by Ledwich in support of his views. Smith wrote "That there was no doubt but the Round Tower at Ardmore was used for a belfry, there being towards the top not only four opposite windows to let out the sound, but also three pieces of oak still remaining, on which the bell was hung; there were also two channels cut in the cill of the door, where the rope came out, the ringer standing below the door on the outside." In 1750, however, Smith, in his history of Cork, changed his views, and Ledwich, while making use of the above extract, writes of Smith:—"This writer at this time [1746] was not refined enough in antiquarian speculations to be whimsical; however, the case was otherwise in 1750, when he gave us his *History of Cork*, for he tells us he formerly thought these towers were the retreat of Anchorites (whereas he positively pronounced them belfries), but that an Irish MS. informed him they were penitential towers, the penitent descending from one floor to another as his penance became lighter, until he came to the door, which always faced the east, where he received absolution. This was the waking dream of some ignorant ecclesiastic, and yet it had its day of fashion, like other absurdities." And so, we may add, had Ledwich's theory. He cut and carped at every writer who did not agree with him. Other writers' opinions were designated "whimsies," "absurdities," "idle fancies," "fine-spun hypotheses"; but he only—the learned Dr. Edward Ledwich—was the real Simon Pure of Irish antiquaries, the great erudite, classic, and polynational Sir Oracle of Irish history, to whose dogmatic assertions no one dare say nay.

We live in a more tolerant age now, we hope, when men, irrespective of sect or party, can hold an opinion and express it without being barked at or bit by rabid animals. It is the duty of every writer to do justice to his predecessors and contemporaries, and this we have endeavoured to do throughout these pages.

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

SOME scientific men in the sister kingdom would seem to have given their adhesion to an "ism" called Spiritualism. We would be sorry to say, until we know further, that the whole of the newfangled fancy was a piece of utter fraud and folly, and its adherents fools, for the so-called fools of this century may be looked upon in the light of benefactors in the next. We are, however, no believers in Spiritualism as we know and hear of it as at present administered or exhibited. If there be a science of the soul, the psychologists so-called have a strange way of affording us illustrations, and nothing deserves the name of science where collusion and confederacy and concealment are necessary. We do not burn for witchcraft in these days, although cup-tossers or fortune-tellers are nowise extinct. In Pliny there is a passage which we would recommend to the attention of spiritualists, fortune-tellers, and moon-struck spoonneys in love, or troubled with what Irishmen in country districts are wont to call an all-over-ish-ness:—"Democritus says let the tongue of a living frog be extracted without permitting a particle of its flesh to adhere to it. Then throw it into water; after a short time lay it on the breast of a woman asleep on the spot where the

palpitation of her heart is perceptible; whatever questions you shall then propose her she shall answer truly." This recipe ought to be worth any amount of money to modern "mediums" or operators. Experimentalists had better, however, be warned that there is now in existence a "society for the prevention of cruelty to animals," and frogs will be protected, though tadpoles may go scot free. Some vivisectioners, doubtless, will not be deterred, but if they fail in extracting the secrets from the bosoms of ladies, let them lay the blame upon Pliny, not on the writer who has quoted him for the public edification.

Whenever we turn over the pages of ancient Greek or Roman authors, a new reflection from an old light is always occurring to us. We moderns think there was no wisdom, at least very little, in the world before our time. The great Solomon is, indeed, credited with wisdom, but he is only trotted out on certain occasions to suit the purposes of moralists and preachers. Certain actions and attributes have been mentioned in ancient and modern times as the most valuable that man can evidence, and the most agreeable to God. The three actions, which were ranked the highest by the Magi of old, and the most agreeable to the Deity, and which made one of the articles of their religion, were, the planting of a tree, the begetting of a child, and the building of a house. These actions in the present day have their great virtues also, not, however, unalloyed with vices. The last and first may be particularly alluded to here. To plant a tree now from a health point of view in our squares or open spaces is a commendable action. Plants and leaves that give out ozone are highly beneficial in crowded localities, and a tree from a commercial point of view is also valuable. Timber for building or fuel, or for adding beauty to the demense or landscape, in the character of a living tree, is requisite. The building of a house is in itself an art, and a civilising one in all ages, although the art has been greatly debased by modern speculative builders. In their hands the building of a house is neither to God nor man, for it is the devil's art of fraud, lying, and death. Of the natural law of creation in the perpetuation of the species, we need not enter upon here, and all we need is to remind the young and old to cease to do evil, and learn to do well, and for parents to train up their children in the way they should go in accordance with the good scriptural maxim. If man and woman kind will do this, then the three actions of the Magi could be made an article of their religion without any danger to the commonwealth, always supposing that prudence or discretion is kept in view.

The monastic orders have been accused of many faults, yea, even immoralities; but when all has been said that the most prejudiced and carping critic can say to their discredit, the fact remains that they have left to the world lasting monuments of their genius in literature, science, and art. Look at what the missionary labours of the ancient Irish saints and ecclesiastics accomplished abroad and at home. Behold the architectural gems raised on high by the great Cistercian Order on the Continent and in the British Islands; and also, in a minor degree, look at the establishments of the other orders, and their schools and colleges. We may have had bad popes, cardinals, bishops, and priests; but have we not had millions of bad and corrupt laymen in all ages? and, worse than that, have not their kingly rulers been murderers and tyrants in numerous instances? The riches of the clergy have, indeed, been a popular subject for envy and complaint; but have they not made, after all, noble uses of their wealth for the advancement of learning and architecture, and also in acts of bounteous hospitality for the poor and infirm? Would that many, or a few, of the clergy of the present day of all creeds would take pattern by the clergy of the early or middle ages. Cardinal Ximenes commenced and finished the

University of Alcala, a splendid foundation, endowing it with forty-six professorships, and at his death settling on it an annual revenue of 14,000 ducats. But to go through others of his acts. His granaries at Toledo held 20,000 measures of corn; those at Alcala, ten, and these at Cisneros, five. His hospitals and nunneries were great establishments too, and he expended vast sums in publishing the Complutensian Polyglot. His diocese contained 812 cures, and was one of the best regulated and learned in Europe. His income was set down at 112,500 livres per annum. In the dissolution of the great monastic establishments of Ireland, England, and Scotland grievous and lasting wrong was perpetrated. Abuses could and might be reformed where they existed; but where was the necessity of destroying magnificent works of art, uprooting colleges, schools, hospitals, and granaries; confiscating the property of rightful owners to give it to wrongful doers, and sending thousands of the poor and needy adrift with their benefactors to die or be scowled at, smitten and hooted like the Son of God? Of them it might be written:—

The foxes have holes and the birds have a nesting place,
But God's poor, like Christ, are scarce left a resting place.

The world is slowly coming back to some of its original reason, and justice is being done at last to the great monastic orders for their labours in the cause of religion, literature, and art.

In those days of School Boards and Compulsory Education in the sister kingdom, it is interesting and instructive to look back at some of our old English statutes made and provided for the subject, or rather in restraint of it. In the 15 Richard II., the sturdy barons, who had been often applauded for their defence of public rights, petitioned the king that no villein—that is to say, hind or serf of the soil—should send his son to school. This act has been defended often by our nobles and gentry down to a late date, and indeed now we fear that there are some folk, if they would not openly defend such an act, contend at least that ability to read, write, and cypher as far as the first four rules of arithmetic, is quite sufficient for mechanics and agricultural labourers. The act of Richard was based upon the assertion that the day labourers and tillers of the soil deserted their employment, and commenced as kerns, wasters, idlemen, and evildoers—in fact that they wanted to become gentlemen, live idly and dissolutely, and that such could not be done without great injury to the subject, and hence the necessity of the statute. This act might be termed, in our opinion, an act for the promotion of slavery, and by making ignorance compulsory. The "Gentle Spencer," the poet, in alluding to this act in his "State of Ireland," would appoint to every one able to live on his freehold a certain trade, which he should be bound to follow. He divided trades into three kinds—manual, intellectual, and mixed. The first requires bodily labour, the second is the exercise of wit and reason, and the last is compounded of the two former, such as a merchant buying and selling (in old English called *Chafferie*). We suppose that modern stock-jobbing might be entered under this term without any injury to the "bulls" and bears or "riggers" of the money market. Without the three above-named avocations Spencer thought no commonwealth could be perfect. He would also have a statute ordaining the sons of lords and gentlemen, and such others as are able to bring them up in learning, should be sent first to a parish school and then to a barony school, to be instructed in grammar and the principles. As to husbandmen, he would enforce the first-named act, which, he said, "God wot, is very slenderly executed." So much for the gentle bard, the author of the "Faery Queen." Need we wonder, with such advisers, the government of Spencer's day did nothing for the education of the people in Ireland? Further, need we wonder why that, while the spirit of Richard II.'s Act

leavened the lords of the soil, handicraft and agricultural labour in the three kingdoms was in such a backward state? This compulsory ignorance was the direct parent of most of the crimes that disgraced the annals of these countries, and rendered the law as administered, "a mockery, a delusion, and a snare." Because domestic servants are getting scarce now in the sister kingdom, some shallow-minded people are crying out that the School Boards are ruining the country, and that soon labourers and servants will not be obtainable. Pshaw! on such unworthy and selfish fear. Labour will always be had at a proper remuneration if respect is associated with it, for there is dignity in all forms of labour. It would please us much to see that cooks and housemaids were more scarce, if it would only lead to the needful reform of all ladies learning how to cook their own food and help or assist in managing their own households. H.

THE LAW OF CONTRACTS.*

THE paper which I have the honour to read for you to-night was, in a cruder form, intended for a class meeting later on in the session; but, owing to a recent change in the programme, my notes had to be got into shape rather more hastily than I could wish. I have, therefore, to ask your forbearance with its inadequacy and incompleteness.

It is not my intention to attempt more than a mere outline of the most important questions affecting architects, which are included in the law of contracts. The subject belongs more to the region of law than to that of architecture; and in many cases legal assistance will be as necessary for the architect, as medical advice would be to a man who might feel himself out of health.

To know what contingencies are to be provided for in the "general conditions" of an ordinary contract, to recognise and avoid a legal difficulty, and to gauge the different courses of action which might suggest themselves when dealing with a troublesome client or contractor, are questions that come more within the architect's province than would points of abstract law. In short, an architect is only bound to know "as much law as would enable him to keep out of it."

Most persons have a notion what the words "contract" and "agreement" imply; but for sake of clearness it will be well to consider the meanings a lawyer would be likely to give these terms, and to the minor terms included in the more general definitions. A contract, then, is "an agreement between two or more persons to do, or to abstain from doing, some definite thing or things." The term "agreement" carries in law the same meaning, and is interchangeable with that of "contract."

A contract may be expressed, or it may be implied. In an expressed contract the parties to it have defined their terms either verbally or in writing; but in an implied contract no stipulations were made by the parties, yet there must be something in their acts from which the law can infer an agreement. Also, a contract may be personal or non-personal. By the former is meant one the performance of which depends on peculiar technical skill and judgment; by the latter, one not involving these qualifications for its due execution.

These are some of the different kinds of contracts of which the law takes cognizance, but in addition there is another and more important classification used, and this is the division into "specialty" and "simple" contracts. Specialty contracts are agreements under seal; and simple contracts are those in writing but not under seal, and also those made by word of mouth.

There are three elements in every simple contract; these are—the request, the consideration, and the promise. The request may be either implied or it may be expressed; it is implied when the individual for whom

the work is done accepts the benefit thereof, although he may not have given an order for it previous to its being done; it is expressed when the order for the work was actually made. The consideration is on the one hand the equivalent to be given for the work done, and on the other the work done in lieu of the promised equivalent. The promise is the undertaking either implied or expressed to pay or yield some consideration for the work done in accordance with the request.

You will understand from this that the consideration is the essential element of a simple contract: a request may be implied and a promise inferred, but the consideration is a *sine qua non*.

We next come to specialty contracts or those under seal, and the essential difference between them and simple contracts is that they do not require a consideration to make them valid. And, as regards architects, it is well to know that a corporation can only contract under seal, and nothing but the seal will make him legally secure with the body as such, although the individuals of which it is composed may make themselves personally liable to him. It is not absolutely necessary to have the agreement in writing, but it is safer that it should be. For a similar reason legal words should be adopted, as their meanings are clearly defined.

Having made these preliminary observations on the different classes of contracts and their elements, we have next to consider the duties, rights, and authority of each of the three persons concerned in a building contract, viz., the architect, the contractor, and the employer, including such questions as the death or bankruptcy of any one of these. This task, however, in a short paper can only be accomplished in a general way, but a little more attention will be given to special points.

To begin with: the architect will be legally bound to bring to the exercise of his profession proper qualifications, and to undertake to use a reasonable amount of skill and care in the designs and an adequate supervision in the execution of the work. If he does not, he will be liable for the consequences that can be proved to have been caused by his neglect or want of skill.

In undertaking work for a client a distinct agreement should be drawn up as early as possible in the transaction, and will be generally found to save much subsequent annoyance to the persons concerned. A contract to prepare plans on approval is very unsafe, as there is no remedy for the architect in the event of his plans being disapproved; and a contingent contract, or one in which the payment depends on a contingency, is nearly as bad, for the individual for whom the work is done may render the contingency impossible, in which case the architect will lose his remuneration, unless there is some special covenant or provision in the agreement on which he can fall back.

With respect to the architect's right of payment, he will be entitled to whatever sum is mentioned in the agreement with his employer when he has performed the condition, or "condition precedent" as it is termed, entitling him to payment. Should no sum have been agreed upon, it will be inferred that a reasonable remuneration was intended; and therefore, in the event of a dispute about his charges, an architect must be ready to prove that they are only fair and reasonable. He cannot fall back upon a "Schedule of Fees," such as that of the Institute of Architects, for it is not admissible in evidence; consequently, should his charges be based on those prescribed in the schedule, their reasonableness must be proved all the same.

Analogous to the question of remuneration is that of the ownership of the plans. This point has not, I understand, been as yet finally settled by the courts. The Royal Institute of British Architects maintain that "it has hitherto been the general custom for the architect to be paid for their use only, those documents remaining his property." But Baron Bramwell, in speaking on this point, held that "the usage was impossible,

and perfectly suicidal. It no sooner came into existence than it cut its own throat by its absurdity"—a view that the *Times* and other newspapers approved of highly. If, then, the architect wishes to retain his plans, the safest course for him is to express an intention to that effect in the agreement.

The authority an architect may exercise in the superintendence of works will depend mainly upon the terms set forth in the contract; but should this document be silent on the point in question, the architect's authority would probably be limited by usages, provided such usages were reasonable.

"If the parties so agree, there is practically no limit to the authority with which the architect may be invested; that he may be endowed with a discretion the extent of which would depend only on the power of his employer; that if the terms of the contract are clearly expressed, the builder may be placed almost absolutely at his mercy; but that if this be intended, in each and every case the conditions should be expressed in unmistakable language, for if anything is left to be implied by the law, that only will be implied which is reasonable."

One of the most powerful weapons by which an architect can enforce his authority, and ensure good workmanship and materials in his buildings, is the certificate; for, if the contract requires that to entitle the builder to payment, the architect must previously testify by a certificate his satisfaction with the work done; the contractor cannot recover his money without that certificate, even if the work were well done, and the party for whom it is done satisfied. There is, however, one exception to this general rule, and that is—should the architect be guilty of fraud or misconduct in withholding his certificate, as, should these delinquencies be proved, the contractor will probably have the court's assistance. An architect is not ordinarily liable for the interferences which the erection of buildings under his charge may cause to his employer's neighbours—light, air, water, &c.—unless there is a stipulation to the contrary in his agreement. For instance, if the architect undertook that in designing a house, no infringement of neighbours' rights would occur, but afterwards, in course of erection, an interference does take place through his fault, it seems only fair that he should be responsible for the error.

The general rules relative to the "quantities" where no special arrangement has been made relative thereto between the architect and his client, will depend to a great extent on the usage extant. If, then, it is the practice of the profession to employ a surveyor to take out the quantities, the architect is impliedly authorised to engage a surveyor, and the contract (if conditional) will be binding on his client until after the tender has been accepted, when the liability to the surveyor shifts on to the builder.

An architect's contract with his client is what has been above described as a personal contract or depending on peculiar technical skill. The way this peculiarity affects him is important in the event of his becoming incapacitated for work, or should such casualties as death or bankruptcy occur; for the trustees, executors, or assignees can only recover the remuneration due for such work as the incapacitated, deceased, or bankrupt architect has executed; but they are not entitled to complete his unfinished works, unless by special agreement. In all cases, however, much will depend on the terms of the architect's contract with his client.

Passing on to the builder, we are told that his contract is not a personal one, like the architect's, unless it is made so by some special covenant in the agreement. His duty is defined in that document, his liability in case of default fixed, and the payment or consideration to which he is to be entitled set forth, as well as all the privileges he is to be granted. All these points as well as all others which the architect considers

* By Mr. H. C. Brett (Hon. Secretary). Read at ordinary general meeting of the Architectural Association of Ireland, on the 24th ult.

• "Legal Handbook for Architects," &c., (by Jenkins and Raymond), cap. v., sec. 36.

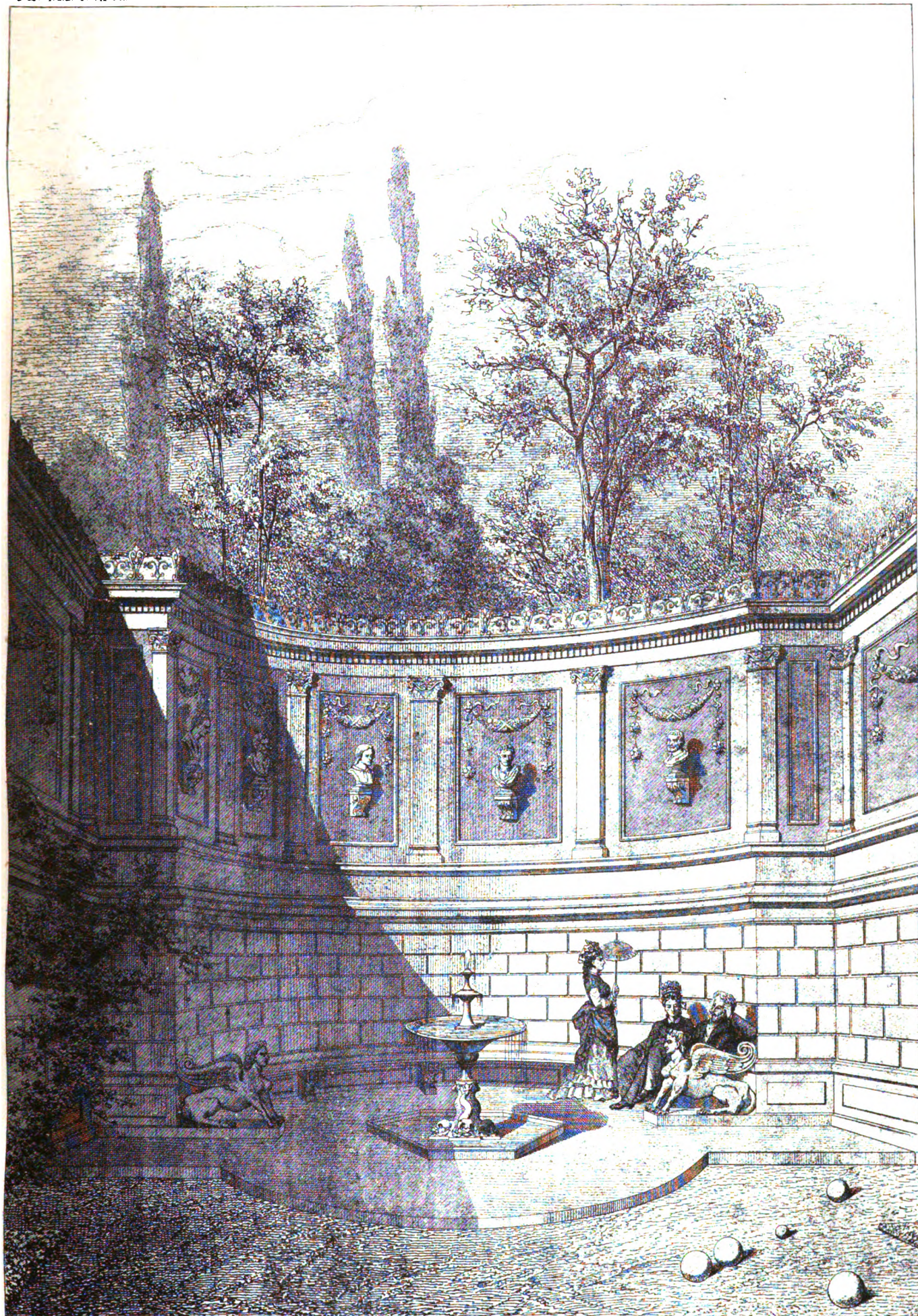


Photo Lith. Pim Brothers & Co. Dublin.

SEMICIRCLE IN GARDEN. ST. CLOUD.

(From "Encyclopédie d'Architecture." — Morel. Paris.)

advisable to include, should be distinctly specified, and nothing if possible left an open question. The clauses requiring great caution are those bearing on the architect's certificate and authority, mode of payment, the extras, the penalties, and what are termed the bankruptcy clauses.

The state of the case as regards the architect's authority and certificate has been already mentioned; it will, however, be necessary to say a few words on the subject of the builder's right of payment. In the absence of special provision on this point in the agreement, the following appear to be the general rules sanctioned:—If the contractor has undertaken to do certain work for a fixed sum, as long as that work remains unfinished he cannot recover payment even for the part of the work he may have done, unless the employer has refused to perform his own part of the bargain, or incapacitated himself from doing so; or, again, if he has accepted the benefit of the work done in a manner which would make it possible to infer an intention to pay for it; or if he has dispensed with the conditions of the contract; or, lastly, if the work done was not included in the contract.

If the contractor has unfaithfully or carelessly performed his contract, and seeks payment therefor, the employer can seek to reduce the claim by proving defective workmanship or materials.

Probably the most delicate point in a building contract is the question of extras. They are not seldom the *causa belli* for triangular duel between architect, builder, and employer. The principles which regulate them, are not, however, very complicated. Speaking generally of the contract provides that alterations and additions are not to be charged unless authorised in a particular manner; that provision must be followed to enable the contractor to recover for extras; also the order therefor must have been given previous, and not subsequent, to the execution of the work.

Again, in an action to recover extras ordered by the architect it must be proved that he was either impliedly or expressly authorised by his client to give the order for the works. Should, however, the contract declare the architect arbiter of the value of the work done, and have given his certificate therefor, the question whether or not an order was given will be nugatory. Finally, it must be distinctly remembered that if the conditions of the contract with reference to "extras" are to be rigidly enforced, the architect must not travel out of that agreement; for if the contractor succeeds in proving that the additional works are not within his contract he does not require a written order to recover payment for them, nor even a verbal one, if he can establish some act on the employer's part which will enable a court of law to imply a request.

What are usually termed the "penalties" in building contracts in reality come under the legal term of "liquidated damages," otherwise they would not be recoverable in a court of law. They are to be considered as an assessment which the parties have agreed to in compensation for the damages occasioned by a breach of contract, and they will be bound by it. But should an action arise, and the court consider the assessment to be in reality a penalty, the oppressed party will be entitled to relief; and the jury will be directed to assess the employer only such damages as will fairly compensate him.

It would also appear that if the failure on the part of the builder to complete his contract be due to some act of his employer, the latter will not be entitled to recover damages unless there is some special covenant in the contract which will enable him to do so.

In the event of an inevitable accident happening to the works in progress there are three cases to be considered—1st. When the agreement is to do certain works, there being no stipulation deferring payment until their completion. In this case the builder would be entitled to payment for the work done up to the time the accident occurred, as well as for the materials used. 2nd. If the agree-

ment was that the contractor was not to be paid until the work was complete, he would not be entitled to any remuneration on account of an accident, but should make good the damage. 3rd. If the works are to be paid for in instalments the contractor will be only entitled to such instalments as he may have earned up to the time the accident took place.

The builder's contract not being personal, in the event of his death, or his becoming a bankrupt; when there is no special clause in the contract providing for such a contingency, the executors or assignees, as the case may be, will be entitled to his rights of contract; they are bound, if they have assets, to complete his unfinished works.

As the paper has already exceeded the length originally intended, I shall say only a few words about the employer. It is needless to say that his duties will depend on the agreements with the architect and with the builder. In the event of there being no agreement between the architect and his client, it may be useful to know how the case would stand in a question like the following, which is not uncommon. Suppose the order to the architect is to design a house that will cost a certain sum, but when the tenders are opened it is found that they exceed the amount specified, would the architect be entitled to remuneration? The answer appears to be, that if the lowest tender were reasonably near the stipulated cost, the architect could recover his fees. Similarly the client would be entitled to object, were the plans for his house not prepared within a reasonable space of time. The word "reasonable," however, allows great latitude of opinion, for—to quote Baron Bramwell's simile—"We know that at noonday it is light, and at midnight it is dark; but it is difficult to say exactly when daylight ceases and night begins." When, however, there is an arrangement between the architect and his client on this point, of course each party may hold the other to his bargain.

The rules applicable in the event of the bankruptcy, death, or incapacitation of the employer are nearly identical to those above mentioned in the builder's case; therefore his contract not being personal, I shall not trouble you with a repetition of them.

I shall now conclude by attempting to summarise the principal points to which I have called your attention.

When the contract is only implied, a court of law only seeks to enforce fair and reasonable terms between the parties. It will admit of no usage being imported of which one of the parties was in ignorance, and none whatever that is illegal or unreasonable.

When there is an agreement, either verbal or written, between the parties, the court will seek to discover and to enforce the intention of that agreement; but wherever it finds itself free to act according to its judgment, it will be guided wholly by "reason and authority."

In framing contracts, therefore, it is necessary to express every point in the most distinct manner, so as to leave no room for doubt as to the real intention of the agreement.

"The law will not afford any relief on account of the absurdity, the unreasonableness, or even the impossibility, of the particular thing which is undertaken; and if a man unmis-takeably contracts to do that which is impossible, he must on default pay damages, provided there is no fraud in the matter, and that it is not that which is termed a 'catching bargain.'"

THE GLASGOW INSTITUTE OF ARCHITECTS.

At the annual dinner of the above, held on the 14th ult., the President, Mr. John Baird, in the chair, among other toasts, "Prosperity to the Glasgow Institute of Architects" was given by the chairman, who, during his remarks alluded in suitable terms to the loss which the institute had sustained since the

last annual dinner by the death of Mr. Alexander Thomson. The past year, he said, had been, however, one of great prosperity to the institute, no fewer than fourteen new members having joined the incorporation during that time, and there were various indications that they were growing in influence as well as in numbers.

Mr. David Thomson proposed "Prosperity and success to kindred societies," coupled with the name of Mr. John Honeyman, F.R.I.B.A., President of the Architectural Section of the Philosophical Society.

In responding to the toast, Mr. Honeyman made some very pertinent remarks, saying that so far as it referred to the Royal Institute of British Architects, he regretted that he could not say that the compliment was in any sense deserved. It is an humbling thought, he said, and I trust you feel suitably affected by it, that the institute which is nominally the Institute of British Architects, practically ignores the existence of the profession north of the Tweed. Recent events would seem to indicate that it is impossible for our brethren in London to get rid of the ridiculous Cockney delusion that, while it is just conceivable that there may be some British architects in Liverpool and Manchester, or even in Nottingham and Leicester, it is simply absurd to suppose that there can be any in Edinburgh and Glasgow, and hence we are complacently informed by a committee, which has created no little stir of late, that they had entered into communication "with the various provincial societies," while in point of fact they had only done so with a few English societies, none of which represents so large a body of the profession as our own local institute, while we and our brethren in Scotland—being a fifth of the whole profession in Britain—are entirely overlooked. This is the more remarkable when we consider the matter with which that committee was intended to deal, namely, to devise some means by which the institute might be made more widely useful—might enlist more largely the sympathy and support of architects throughout the kingdom, and so more worthily discharge the functions of the great representative association which it professes to be. Gentlemen, you can afford to be amused by such treatment, still it is really too absurd, and on such an occasion as this I cannot refrain from some allusion to it. We must charitably attribute the whole mistake to ignorance. It is, of course, quite possible that the committee were not aware that there are more architects in Glasgow than in either Liverpool, Manchester, or Birmingham, and twice as many as there are in the whole counties of Leicester and Nottingham put together. I am the more anxious that such ignorance should be dispelled because I feel a deep interest in the prosperity of the institute, and firmly believe that its influence might be extended in the provinces with very beneficial results. Our old Architectural Society, now the Architectural Section of the Philosophical Society, I am glad to say, shows signs of renewed vigour. It is an important adjunct of our institute, and well deserves our support.

THE SOCIETY OF ARTS.

On this evening a paper will be read at the Society of Arts on "Aquarium Construction and Management," by Mr. W. Saville-Kent, F.L.S., F.Z.S.; and at the subsequent meetings in order will be read the following papers:—

March 8—"Hall Marking of Jewellery," by Mr. Alfred Lutschau.

March 15—"A New Bridge for Providing for the Traffic across the Thames below London Bridge," by Mr. Frederic Barnett.

March 22—"Railway Couplings," by Mr. F. A. Brocklebank.

March 24—"Irrigation Works in India," by Mr. W. T. Thornton, C.B.

March 29—"Model Dwellings for the Rich," by Mr. T. Rorer Smith and Mr. W. H. White.

April 21—"The Sanitary Progress of India," by Captain Douglas Galton, C.B.

HANDICRAFT AND HANDICRAFT
TOOLS.

HAMMERS.

(Continued from page 64.)

In the previous lecture reference was made to the chief elements which produce the large amount of energy derivable from hammers; these are mass and velocity. Now, for the purpose of comparing the effect of one hammer with another (of the same material, shape, and mass), it is clear we should be able to refer the imposed velocities to some common standard. No artificially-produced velocity has been so exhaustively investigated as that of gravity.

It is well known—thoroughly well known—with what velocity a body falling from a measured height will strike the ground. Therefore the converse is true; knowing any velocity it is easy to ascertain from what height a body must fall in order to acquire this velocity. Hence, to determine the power of a hammer it is usual to estimate, as accurately as circumstances permit, the velocity at the time of impact, and then to consider the problem transferred to one common source of velocity, viz., gravity, and ascertain the height a body must have fallen under the influence of gravity alone, in order to acquire the observed velocity. The reason why this is done will be more apparent if one method of estimating such work as that of hammers be explained. Holding this 2 lbs. weight in my hand, and letting it fall through a space of 3 ft., the energy of the weight when it strikes the table is said to be $2 \times 3 = 6$. If through 6 ft., then the energy is $2 \times 6 = 12$. Again, if instead of 2 lbs. weight it had been one of 4 lbs., then these respective energies would be $4 \times 3 = 12$, and $4 \times 6 = 24$. These resulting figures are called foot-lbs., because they are obtained by a combination of the feet through which a body has fallen, and the weight in lbs. of that body. Now in this act of falling under the influence of gravity alone there is an increase of velocity according to a well-known law. Custom and certain mathematical considerations have led to the adoption of the height of the fall needful to impart a velocity, rather than the adoption of the velocity as the element to be combined with the mass of a hammer in order to determine its actual energy. Hence, while striking blows with hammers we endeavour to note the velocity at the time of impact, it will perhaps now be clear that this is only done in order that from such observed or deduced velocity the height through which the hammer must have fallen under the influence of gravity alone to acquire that velocity may be known. The figures of this resulting height, and not the velocity, are those which enter into the future of the problem now occupying consideration. In handicraft hammers then, whether the velocity be imparted directly from muscular effort, or indirectly, as in the "oliver" and dead-blow hammer, through a combination of mechanical appliances, it will be needful, in order to institute a comparison of energies, to convert the effect of these contrivances into what would be the equivalent to them had unaided gravity alone been the acting agent. To express this otherwise we may say that the simple pile-driving machine is the representative mechanical form into which all hammer work must be converted in order to calculate energy.

It will, therefore, be well if at this stage we for a while leave the handicraft hammer with its attendant muscular energy, and consider only the action of gravity. So important is it to be clear upon the effect of gravity on falling bodies, that the results of the consideration on which we now enter may perhaps be reasoned out in two independent methods, with a view to make clear by the second method what may not be so by the first. The first method may be called the popular or common sense one; the second the mathematical or scientific one. On a falling body, gravity acts continuously. It is a force which is continually adding to its former effects. Hence the mode of measuring or estimating it must differ from those cases

in which a mass of matter is always moving at the same rate, or has been struck by one finite blow. In the case of gravity, if a mass of matter be let fall from rest, then, whilst the velocity at the commencement of the fall is 0, yet at the end of the first second it will be found to be moving at the rate of 32.2 ft. per second in England. Therefore adopting the usual plan of average, viz., adding the extreme velocities together and dividing by 2, we get the space through which the body must have fallen in this second to be $0 + 32.2 \div 2 = 16.1$ (say 16 ft.) Now in the case of a hammer falling vertically, it is possible to add to or subtract from the force of gravity, and the question presents itself, if the intensity of muscular energy or steam, or water, or a spring, or otherwise is (say) doubled, then is the velocity of the hammer doubled? At first sight it would appear to be so, but a little thoughtful reflection will show that it is otherwise.

Suppose such muscular force be exercised as to move the hand through the air at a velocity of 10 ft. per second. Now if this muscular force be increased so as to produce a velocity of 20 ft. per second, can this velocity be obtained by doubling the muscular effort? Let us see. If no fresh conditions enter, doubling the effort will certainly double the velocity. But fresh conditions do enter. Here is one—in the same space of time twice as many particles of air have to be pushed aside as were pushed aside in the former case, therefore these alone would demand double the original muscular effort. Again, each particle has to be struck or moved aside by twice the force which had been previously used, for if not then the double velocity would not be attained. Hence it may be deduced that doubling the muscular effort will not double the velocity. Indeed, taking into consideration what has now been said, the conclusion will be that four times the muscular effort will be needed in order to obtain twice the velocity. And similar reasoning would show that nine times the muscular effort would be required in order to obtain thrice the velocity. If, therefore, the same hammer be used, this question presents itself: Is the work done by the hammer increased in the ratio of the muscular effort, or in that of the velocity? In other words, if I exert four times or nine times the muscular effort, do I get four or nine times the work out of the hammer, or only twice or thrice the original work?

Now to estimate the work in the blow of the hammer, the space through which the hammer-head must fall, under the influence of gravity, in order to acquire the velocity of impact, must be determined since, as was previously remarked, under the name of space and not under that of velocity, the element enters which is used in the calculation of the powers of hammers.

An example of the table alluded to in an early part of this lecture may be useful:—

If the velocity per second be	The space through which the body must have fallen will be
10 feet	1.55 feet
15 "	2.50 "
20 "	6.21 "
30 "	14.00 "
40 "	24.80 "

If, therefore, the velocity of a hammer be doubled, then the work in that hammer, depending as it does upon "space," is increased four-fold; if the velocity be quadrupled, then the work is increased sixteen-fold, as is evident by a comparison of the spaces opposite the velocities in the table, e.g., 10 and 20, 15 and 30, 20 and 40, also 10 and 40; in this latter (40) the space is sixteen times as great as in the former (10). Therefore the work in a hammer is increased in proportion to the muscular effort, and not in proportion to the velocity.

To take another view. Gravity in the cases before us is a force producing motion, and under such circumstances forces are measured by the velocity they can communicate to a unit of mass in a unit of time, in this case to 1 lb. in one second. Suppose now that at the beginning of a second a body was moving

with a velocity (v), and at the end of the second with an increased velocity (v'), then the velocity communicated would be ($v' - v$).

If this velocity were communicated to a unit of mass then the measure of the force would be ($v' - v$). Care must be had not to allow the mind to consider as the same the measure of a force and the measure of the energy of a given hammer. This ($v' - v$) is the measure of the force only, and it may be represented by V when the body commences its motion from a state of rest. This is the mathematical expression for a force producing dynamic action; it is in fact a mode of expressing the intensity only of a force, and is quite irrespective of the energy that force can impart to a mass; because this energy depends not only upon the unit measure of the force, but also upon an element of space, and this latter element is deducible from a combination of the measure of the force with the time during which the force acts, and which force is, therefore, second after second, adding its effect in each second to the accumulated effects of all precedent seconds.

Now it has been already explained that the velocity of a body at the end of one second falling freely from rest, and influenced only by gravity, will be 32.2 feet, therefore the space passed through in this first second is—

$$0 + 32.2 \div 2 \text{ or } 16.1 \text{ feet.}$$

Combine this measure of space with the explained measure of force, then—

$$\text{Force} \times \text{Space} = V \times \frac{V}{2} = \frac{V^2}{2}$$

Now when gravity is the force, it is known from many experiments that 32.2 is the measure of it. In the foregoing equation these figures may be inserted instead of the word "force."

$$\text{Then } 32.2 \times \text{Space} = \frac{V^2}{2}$$

$$\text{Or Space} = \frac{V^2}{2 \times 32.2} \text{ in the case of gravity.}$$

From this equation we can change the observed velocity of a hammer at the time of impact into the space through which under the influence of gravity alone the hammer must have passed in order to have acquired that velocity. Thus we can divest the problem before us of all those peculiarities which would certainly encumber it if the varying means of producing velocity had to be considered and measured. If this reduced space be combined with the weight in lbs. of the hammer we shall have the measure of the energy of the hammer.

An illustration may make this more clear. Suppose a hammer head weighs 2 lbs., and the velocity at the instant of the blow was observed to be at the rate of 25 ft. per second; now, substituting these figures for the general representative of them, viz., V in the previous paragraph, then the space through which, under the influence of gravity, a hammer-head must have fallen to acquire this velocity will be—

$$= \frac{(25)^2}{2 \times 32.2} = \frac{625}{64.4} = 9.7 \text{ feet.}$$

or 10 ft. nearly, the work of one blow of that hammer would be represented by $2 \times 10 = 20$ foot pounds, that is to say, the blow of this 2 lb. hammer under the circumstances disclosed would produce an effect similar to that of a weight of 20 lbs. falling through a space of 1 ft., or 40 lbs. through 6 in., or 240 lbs. through 1 in. So acting is practically changing muscular force and the velocity caused by it into gravitation force and the velocity caused by it. A species of change with which we are all familiar, when gold and copper coins* are changed, the former for their respective values in the latter, or when yards are changed to inches or lbs. to cwts. When this change has taken place, varying muscular energy, and varying sorts of hammers, are brought to one denomination, and may be compared.

* If one person has 240d., and another has 20s., and a third has £1, these must be reduced to one metal before comparison.

Besides the surface work produced by hammers, there is some hitherto mysterious and as yet uninvestigated internal work done by them. It is easy to make clear the fact, of which, however, no satisfactory explanation has yet been offered.

(To be continued.)

NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.*

We might have remarked further back that, previous and subsequent to the establishment of the regular Stage in Dublin, several Irish dramatists produced plays which were acted mostly in the sister kingdom. Some of these plays were at a later date also acted here. Of some of these dramatic writers we are unable to say whether they ever appeared on any stage, private or public, in the character of actors.

A countryman of ours named Ludowick Barry (erroneously called, by Wood and by Horace Walpole, Lord Barry) as far back as 1611, published a comedy entitled "Ram Alley, or Merrie Tricks." Only the merest waifs and strays are known of Barry's life and habits. He flourished about the middle of the reign of James I., and most likely, as Mr. McCarthy says, in his "Poets and Dramatists of Ireland," that Barry was a student of the Inns of Court in London, as the above play is full of allusions to the locality. The Ram-alley alluded to is near the Temple, and it may have been part of Alsatia. *En passant*, we might remind the Dublin reader that we have a Ram-alley in this city too, which was once a more noted place than at present. When the old Dublin Tholsel existed in Skinner's-row (now Christ-church-place), Ram-alley ran alongside, and was well known to the lawyers and corporators of old, who met and practised in the old Law Courts behind Christ Church Cathedral, or in the courts of the Tholsel building. The title page of the first edition of Barry's play runs as follows:—"Ram Alley, or Merrie Tricks: a comedy divers times heretofore acted by the children of the King's Revels. Written by Lo. Barry. At London printed by G. Eld, for Robert Wilson, and sold at his shop in Holborne, at the New Gate of Graye's Inn, 1611: 4to." This play was re-published in 1636, and in 1723 it was revived as an acting play at Drury-lane Theatre. It appears re-published again in 1780, in the fifth edition of Dodsley's old plays.

Another early Irish dramatist, who acted in more senses than one, on the real stage of life as well as writing plays, was the celebrated Roger Boyle, Earl of Orrery, born in 1621, and living till 1679. With his character of soldier, courtier, statesman, wily tactician, friend of the two Charleses and Cromwell, we have little to do here. He possessed rare ability, and, as Mr. McCarthy observes, "A man who could be a friend of the different persons we have mentioned; who could pay court to Charles I. at Oxford, relieve Cromwell at Clonmel, form one of the Privy Council of his son Richard, and take a leading part in the restoration of Charles II., must have been no ordinary character. It would appear that they all trusted him, and he betrayed none of them." Roger Boyle was a native of Lismore, in the County of Waterford, and he was educated at the University of Dublin. The particulars of his subsequent public and political life can be easily ascertained elsewhere by the reader. During the reign of Charles II. Roger Boyle became a wit and a dramatist, and the friend and companion of dukes, baronets, poets, and dramatists. He was the author of several plays published during his lifetime. The first was "The History of Henry the Fifth." London, 1638. This play was ushered into the world with great *clat*, being brought out by Sir William Davenant, at the King's Theatre, the Monarch attending, and the principal performers appearing in the coronation robes of the different members of the Royal family. The other plays produced by Boyle that

followed were—"Mustapha, the son of Solyman, the Magnificent," a tragedy, 1667-8; a play well received, and with some good scenes. "The Black Prince," a tragedy, London, 1672. "Tryphon," a tragedy, same year. This play was acted with success at the Duke of York Theatre. The above plays appeared in a collected form in 1690, and form the first volume of Roger Boyle's dramatic works as re-published by Dodsley in 1739. The plays by Boyle published after his death were—"Mr. Anthony," a comedy, London, 1692; "Guzman," ditto, 1693; "Herod the Great," a tragedy, London, 1694; "Altimere," a tragedy, London, 1694. The last was brought out upon the stage in 1702. Roger Boyle was also the author of several poems and a romance in three vols., entitled "Parthenissa," London, 1677. Had the Earl of Orrery, *i.e.*, Roger Boyle, appeared on the mimic stage he would possibly, in his younger days, have made a good figure as an actor, for he was full of resources and stratagem as a courtier and politician.

After the death of poor Ogilby, in 1672, the patent as well as master of the revels in this country was obtained by Mr. Ashbury, through the influence of the Duke of Ormond. Ashbury figures conspicuously in connection with the establishment of the regular Stage in Dublin. He was a native of London, being born in 1638, and received his education at Eton School. At his father's death his friends procured him a pair of colours in the army, under the Duke of Ormond, and with the Duke he first visited this country, in the last year of Oliver Cromwell's administration. It appears that he signalled himself, and particularly on the occasion when Governor Jones was seized in Dublin Castle, and secured in favour of Charles II. Ashbury was soon afterwards raised to the rank of lieutenant of foot, and shortly again the Duke of Ormond, when Lord Lieutenant, made him one of the gentlemen of his retinue and deputy-master under Ogilby. Ashbury, when he succeeded to Ogilby's place, it would seem, lost no time in promoting the re-establishment of the Stage here, and receiving encouragement from the nobility and gentry, he hastened to London to gather forces. His success, we are told by Hitchcock and others, exceeded his expectations. Ashbury brought back to Dublin with him several good performers, among them the noted Mrs. Butler, an actress of celebrity and a great favourite with Charles II., who honoured her in various ways. Mrs. Butler was a good actress and singer, her favourite character being in the comic line, but by no means entirely confined to that line. Of her Hitchcock says that, "with an elegant air, a sweet-toned voice, and a sensible pronunciation she sustained many parts in serious comedies with much reputation. In characters of humour she was gay, lively, and entertaining, and her second Constantia in the Chances was allowed by Cibber, who saw them both, to be superior to Mrs. Oldfield's." Though at the head of her profession in London, her salary was only £2 per week. Nothing can more fully portray the humble state of the London Stage at that period than the fact of this good actress being only able to obtain 40s. a week. 'Tis said that it was in a fit of disgust at this shabby remuneration and not being able to procure an increase of 10s. that she embraced Ashbury's proposal, and started for Dublin. With her came Mr. Wilkes, mentioned already, and Mr. Estcourt, who had not previously appeared on any stage, though known as a good mimic. On March 23, 1691, Ashbury, with his new company opened with Othello, concurrently with a proclamation that the Irish disturbances were at an end. This company, managed by Ashbury, we learn, continued playing for several seasons with the greatest credit. Between the above year and 1698 several eminent performers of that period visited and played in Dublin, but materials for a detailed description of their performances are not obtainable. Among the actors and actresses who appeared in Dublin

at this date, Mr. Hitchcock mentions Wilkes, Dogget, Keene, Norris, Griffith, Trefusis, Estcourt, and subsequently Elrington. The principal ladies among Ashbury's company were Mrs. Ashbury, the wife of the conductor, Mrs. Knightly, Mrs. Smith, Mrs. Schoolding, Mrs. Hook, and the already-mentioned Mrs. Butler. Mrs. Ashbury is described as an excellent figure and a good actress in tender character in tragedy; the other ladies were noted in comedy. The name of Dogget, the actor, afterwards and since of "Coat and Badge" notoriety on the Thames, is entitled to particular notice. Thomas Dogget was a native of this city, having been born in Castle-street. He excelled in the representation of comic characters. After playing upon the Dublin and London Stages at the latter end of the seventeenth century, he became subsequently joint manager of Drury-lane Theatre. He died in 1721, leaving a legacy to provide a coat and bage to be rowed for from London Bridge to Chelsea by six watermen yearly, on the 1st of August, the day of the accession of George I. to the throne. In fact the legacy was meant to celebrate the event of the Hanoverian accession. The name of Dogget is better known on the banks of the Thames than of the Liffey; but perhaps there is not one in every thousand who assemble to take part or witness the yearly fete upon the Thames know that Thomas Dogget was an Irishman, and had any associations with Ireland either in name or in the character of a poet and dramatist. The name of Dogget occurs, however, at an early period in our city annals, and if we remember aright Mr. Gilbert, in his history of Dublin, mentions the name as occurring in some pipe roll, or early city record, of the thirteenth century. There is also early mention of the name of Dogget, or Doget, in the civic annals of London. In "Memorials of London and London Life in the XII., XIV., and XV. Centuries," a volume compiled from the municipal records, and edited for the Corporation of London by Henry Thomas Riley, M.A., 1868, the editor, in a note in the introduction, says—"The Doggets were taverners and vintners down at least to the early part of the fifteenth century, Walter Doget, taverner, being a sheriff in 1380. It is, perhaps, doubtful whether Thomas Dogget, the popular actor of Queen Anne's time and of 'Coat and Badge' celebrity, being himself a native of Dublin, was a descendant of the London family." It is very doubtful, indeed, seeing that the name of Doget occurs in our annals as early as those in London. The name of John Doget, a taverner, occurs as early as 1287 in the London civic records. We do not of late years remember seeing or hearing of the name of Dogget in Ireland, but the name of Duckett has not been uncommon here and in the sister kingdom; but whether it is a corruption we know not.

In the year 1698, Mr. Hitchcock writes that Mr. Ashbury's company in Dublin received an accession of strength by the bringing over from London of Barton Booth, who had in vain applied to Mr. Belkerton for admission to the London Stage. He made his first appearance in this city in Oroonoka, which brought a crowded house, and the success so satisfied Ashbury that he made the actor a present of £5 after the performance—a not very large sum from a modern point of view, but which was most acceptable to young Booth, whose finances were said to be at the lowest ebb. The company continued to perform with success, and Chetwood, who wrote a general history of the Stage and was long conversant with it and the performers thereon, says that the actors of that time were not inferior to any in his day. We are inclined to think that the acting was more natural in the eighteenth century than at present, however deficient the scenery might have been, and what are known now as "stage tricks" were not resorted to to give effect. As we proceed, however, the reader can judge for himself, and estimate some of the actors not alone by the opinions of their contemporaries, but by their own dramatic works.

* See ante.

THE DWELLINGS OF THE WORKING CLASSES.*

(Concluded from page 51.)

My first proposition, therefore—viz., the necessity for improved dwellings for the people—I look on as proved to exist in England and Ireland alike. The next point to settle is the practicability of reforms in this direction, and I mean to do this by adducing the following instances of successful efforts. The first to which I shall refer is that of the "Improved Industrial Dwellings Company, London." It was established in 1863, under the presidency of Sir Sydney (then Alderman) Waterlow, and lately Lord Mayor of London; with him were associated Mr. Goschen, M.P., and many other influential persons. The second company in London is that known as the "The Artisans, Labourers, and General Dwellings' Company." It was established in 1867 under the presidency of Lord Shaftesbury.

The next public company whose efforts in this direction I shall refer to is, I am glad to say, an Irish one. "The Cork Improved Dwellings Company" was established in 1873, under the auspices of the Mayor, Alderman Daly. According to the words of the prospectus, this company was "established to provide for the working classes, at a reasonable rate, dwellings of a superior description to what they can at present obtain." It further draws attention to the very important fact that "the very considerable increase in the rate of wages and the many educational advantages which the operative classes now possess, render an improved class of dwellings not only desirable, but essential to their social improvement." In their first block of houses, named "Prosperity-square," fifty-five houses were erected. The houses in this first effort contain living-room, back-room, with water-closet in yard, and two bed rooms upstairs. The company have lately commenced the erection of a hundred new houses in a better position, and purpose to add reading-rooms, &c.

As the last example of the practicability of joint-stock companies in this matter, I may mention that of "The Industrial Tenements Company." Their houses in Meath-street contain three essential apartments, viz.: the living-room and two bed-rooms, with scullery; on each flat over the ground floor there is a balcony, safely guarded, where children may enjoy the open air, and where the tenant has the accommodation, without the journey of the stairs, of fresh water and a dust-pipe, the scullery inside having a waste-pipe. In the lower rooms there is also that indispensable condition of comfort, a tidy range, with boiler and proper means of cooking. The water-closets for men and women are situate in a commodious yard; and though such convenience in the house may have its advantage, doubtless the projectors of this arrangement have good reasons for not adopting it.

It is not, however, to the efforts of a joint-stock company alone that a person interested in this subject can point in Dublin; the philanthropy and enterprise of a citizen, Mr. Thomas Vance, J.P., have combined to provide great and increasing accommodation for the working classes. Mr. Vance, acting doubtless on the result of experience, does not in his buildings provide for those on the upper storeys the convenience of fresh water, waste-pipe, or dust-bin. These are, however, amply supplied in the yards below, where also are wash-houses, with hot and cold water, together with drying-rooms.

Calculated as are all these efforts to provide improved dwellings for the people, they have not prevented me from being particularly struck with the various plans proposed by Mr. Bannister Fletcher, in a most interesting work I met with in the library of this society, and entitled "Model Houses for the Industrial Classes." Like most reformers in this direction, Mr. Fletcher would like to erect totally new houses; but his schemes

include a plan for the adaptation of existing ones. Of the houses which he proposes, and which he has himself erected, he says:—"There is nothing in the external appearance to call attention to the fact that the same building is occupied in common by more than one family. No huge ungainly mass of brickwork, in appearance something between a barrack and a workhouse, rears its obstructive and unsightly bulk above the surrounding houses. No ugly, inconvenient, external staircase stamps the building as one of these model lodging-houses, against which there exists almost an indescribable prejudice in the minds of those for whom they are intended." Mr. Fletcher's plan for new buildings is houses of two storeys in cottage style. The houses are doubled, and the accommodation is found in the depth, and nothing save this unusual depth would be noticed even by a critical observer. "A passage from the door runs the whole length from front to back, leads into a garden, secures thorough ventilation throughout the entire floor, and gives access to four sets of apartments." "From the centre, and to the right of this central passage, rises the staircase, spacious, well lit, and so contrived as to present no awkward angles or corners, and landing in another central passage, which running exactly over the one on the ground storey, in like manner contains the entrances to four more sets of apartments. Thus the whole number of different families using the one entrance-door is but eight, presenting a striking contrast to the bee-hive arrangements of some existing and much-praised edifices, where a single entrance supplies ingress and egress to endless ramifications of passages and corridors, crowded with the doors of separate domiciles." Each set of apartments consists of four rooms, viz.—living-room, two bed-rooms, and a scullery, sink, scupper, coal-box, dust-bin, and water-closet. Mr. Fletcher, in his internal as well as external arrangements, seeks to avoid anything calculated to stamp his houses with any peculiarity. He wishes in fact, as he says himself, to give them the air of "homishness."

Such are the various plans for perfectly new dwellings to which I wish to draw the attention of the society. But much as we would all desire to build new houses for the industrial classes, we cannot always have them in cities, where space for the purpose does not exist; nor yet always in the suburbs which are often too far from the centres of employment. Mr. Fletcher describes the numbers of large houses let out in floors, destitute of all conveniences, and subject to all the horrors I have before enumerated; and he continues, "I feel that my readers, both lay and professional, will agree with me fully to this extent, that the case is proven as regards the present houses, and that it would be one of the greatest boons to civilisation, and to the improvement of the enormous masses of town workmen and their families, if some plan could be devised to alter existing houses, this being the only way to deal quickly and effectually with so vast a question." To achieve this desired alteration, he suggests three plans. [Plans described.]

Various schemes have been carried out, either by joint stock efforts or by individual enterprise, and it only remains to be seen have they been successful. Have the classes for whom they were intended appreciated them? Have the physical and moral results, hoped for, been attained? And lastly—and this is the great test—have the enterprises proved commercial successes, or the reverse?

The secretary of the "Cork Improved Dwellings Company," writing to me, says:—"Permit me to add, that for the time we have been at work we have not had an average of one house always empty, and this small percentage is but caused by the time consumed in cleaning up, or a change of tenant." The efforts of the admirable company in our own city are also fully availed of, and to such an extent, that some of our most influential citizens connected with it are anxious to extend its operation, and indeed I

hope they may. Mr. Vance, has informed me that he cannot extend his accommodation rapidly enough to keep pace with the ever-increasing demand. We are scarcely prepared for this prompt appreciation of what must be novel arrangements to the people; we should rather expect the contrary, and that in obedience to the old proverb, *ignoti nulla cupido*, the working classes, long inured to dirt and discomfort, should come round but slowly to appreciate a new and better state of things.

And here I would beg of modern and enthusiastic reformers not to ignore the intimate connection, ordained by the Great Architect himself, which exists between man's moral and physical condition. Those who have not forgotten it in their schemes can tell the following-pleasing results. Writing in answer to my question as to the result of their operations in checking intemperance, the secretary of the Improved Dwellings Company, London, says:—"I may say that cases of intemperance are exceedingly rare among our tenants, and the second offence is always followed by notice to quit. I may say further, that during my experience, extending over nearly seven years, with an average of 1,500 tenants, not half a dozen notices have been so given." "Indeed," he continues, "the establishment of improved dwellings for the people works wonders in their physical, moral, and social condition."

We now come to the profits arising out of the adaptation scheme, which, with lots of houses yet good at our disposal, I think very practicable for Dublin and other Irish cities. The first and least expensive alteration would entail, for a four-storeyed house, at furthest a cost of about £100. One shilling per set or flat, or sixpence per room, in addition to the present rent, would leave 10 per cent. on this outlay; even sixpence per set would pay 5 per cent. The second plan, which gives the scullery accommodation without interfering with present rooms, would cost, for a similar house, about £160, and even for this important addition, an increase of one shilling per flat would leave over 5 per cent. The cost of the last scheme, which realizes the highest expectation of the reformer, namely, providing a living room, two bed-rooms, and scullery, furnished with fresh water, waste water pipe, water closet, can be carried out for a sum of £250; for which, if an extra rent of but 1s. 3d. per flat per week be charged, will leave a dividend of over 5 per cent., and change the miserable state of the present accommodation of a workman's dwelling into a healthy, decent, and comfortable home.

Necessary, practicable, conducive to moral and physical improvement, and most profitable as money investments, therefore, are all the plans for improving the dwellings of the people. The only argument against the undertaking is, the people won't treat the new appliances well! And who expects they should do so all at once? We cannot work a miracle in a hurry. Long—nay, always—deprived of all the arrangements for decent living, the working man cannot all at once use these things as if he had been brought up amidst them.

"Tis not strange;
He thinks, feels, acts, and lives
Just as his father did, the unconquered powers
Of precedent and custom interpose."

and it is very possible, neutralize for a time the efforts made to improve his condition; but it is an axiom that "custom is overcome by custom," and when, instead of dirt and indecency, cleanly and decent habits are handed down from father to son, they, in their turn, will assert on future generations that "unconquered prowess," and shed everywhere around the workmen's dwellings their incalculable blessings.

Thanking the various gentlemen who have assisted me in collecting the foregoing facts, and thanking this society for the patient hearing they have given a recital necessarily dry and full of details, I will conclude this paper by quoting the words of the *Daily Telegraph* of the 23rd of last October:—"Is

* From a paper read at Evening Scientific Meeting of the Royal Dublin Society, by Mr. Charles Dawson.

it possible that in a country where we spend £100 on the cell of a thief without looking for any profit we are going to higgie about investing a £10 note in improving the dwelling of an honest workingman, especially when we are ensured 4 or 5 per cent. on our outlay."

If my remarks have the effect of attracting public attention to this subject, and enlisting the sympathies of this important society, I shall be more than rewarded for having the hardihood to occupy your attention so long. At some other time I trust it may fall to my lot, or to that of some other member, to attract the attention of the society to that other great want I alluded to in the commencement of this paper—namely, harmless and healthful amusements for the leisure hours of the people.

OPENING OF ST. STEPHEN'S-GREEN.

THE Commissioners held a special meeting on Monday, at which it was unanimously resolved to ask the Commissioners of Woods and Forests to accept the custody of the Green, with a view to its being thrown open as a public park. It was also resolved to ask Sir Arthur Guinness, M.P., to bring in a bill to carry the resolution into effect. We hope soon to be in a position to record the fact that all obstacles to the free opening of this fine square have been removed, and the munificent gift of Sir Arthur Guinness accepted. For—

"There's a cry from the hard-working artisan,
From the lanes and the alleys dark,
A cry from poor children, from woman and man,
For a good City People's Park."

THE RAILWAYS IN THE NORTH.

At the half-yearly meeting of the Northern Railway Company (Ireland), held yesterday, at the Amiens-street Terminus, the chairman, Mr. Murland, announced a dividend of 6 per cent. per annum, and a balance of £17,424 to the credit of the next account. The result since the amalgamation with the Irish North-Western Company had been better than they anticipated, and he believed their dividend of 6 per cent. was as well secured as any railway dividend could be. Their goods and cattle traffic had increased. In reference to the proposed amalgamation with the Ulster Railway Company, which was the subject of a special meeting, the chairman pointed out the advantages which would accrue not only to the shareholders, but the public, from having the four northern lines united under one management. The report was adopted, and at the special meeting resolutions for the amalgamation of the company with the Ulster Railway Company upon the basis of the stock of the former being taken at par, and that of the latter at 24 per cent. above par, were unanimously carried.

HOME AND FOREIGN NOTES.

THE ROTUNDO HOSPITAL.—The governors of this institution have found it necessary to appeal to the public for a sufficient sum of money (about £2,000) to put the building in a proper state of repair. Mr. Butler, architect, has made a survey, and estimate of probable cost.

AN UNPOPULAR GAS COMPANY.—The Liverpool Gas Company having become excessively unpopular in consequence of the arbitrary manner in which they exact deposits, and also for the quality of the gas supplied, an application is to be made to the Court of Quarter Sessions to appoint an accountant to overlook the company's accounts, according to powers granted by Parliament.

RESTORATION (?) OF THE SEVEN CHURCHES.—A morning contemporary says:—"Our readers will be glad to learn that Government has taken in hands the restoration of the Seven Churches at Glendalough. This act of the Government cannot be too highly appreciated by the lovers of antiquity. It would be a pity to see the ancient, picturesque, and most interesting scenery in Ireland crumble for lack of care."

THE O'CONNELL MONUMENT.—From information received from London, we fear that there is likely to be more than one lawsuit over the unfinished works of the late Mr. Foley. The question of the O'Connell Monument is a critical one, and a long time, we fear, must elapse before it is seen in Sackville-street. It would not surprise some people to hear that the work was begun *de novo* and a resident artist commissioned, although £2,000 would be forfeited, and thirteen years already wasted over the present monument.

THE HEALTH OF DUBLIN.—The death-rate in the city for the week ending the 19th of February, representing an annual mortality of 44 in every 1,000 of the population, tells a very sad tale indeed for the sanitary condition of Dublin. The truth must be told,—our city is not half cleansed, and as dirt is in abundance, north and south of the city, disease is as certain to follow as night follows day. The return for the following week shows a decrease of 7.

THE "SARSFIELD" STATUE.—The Committee met on the 21st ult., at the Town Hall, Limerick. It was decided to appoint new trustees, and to take vigorous action for the purpose of raising funds for an equestrian statue in honor of the celebrated defender of Limerick in 1690! The treasurer reported that he had about £700 in hands, and that £3,000 would be required for the purpose. An appeal to the French and Austrian armies was suggested to make up the small deficiency. A resident Irish sculptor is spoken of as likely to get the order.

PUBLIC MAN-TRAPS—THE PODDLE RIVER.—Some days ago a poor woman named Catherine Duffy, living in one of the numerous courts off Marrowbone-lane, met her death under the following circumstances:—It appeared that beneath the court where she lived the Poddle river flows, and the people of the neighbourhood are in the habit of raising water out of it through a wooden trap in the court, which lifts for the purpose. The deceased, in stooping to raise the bucket of water, overbalanced herself, and fell into the river, which was flowing swiftly in consequence of the heavy rains of the morning. Several neighbours who saw her disappear rushed forward, but they were too late, as she had been carried off down the dark, narrow passage, and was beyond all aid. Excavations were made in different streets along the course of the river, in the hope of finding the body, but no trace of it could be discovered.

LURGAN.—At the petty sessions in this town, a number of the butchers were summoned for having "obstructions" before their doors. It appears that the Commissioners object to the butchers keeping the stalls before their doors at the side of the road, and they also object to the projections at the windows, where the tables for the exposure of the meat are out from 12 in. to 18 in. The cases were adjourned by the magistrates for a month, in order that the Commissioners might have an opportunity of expressing their opinion on the matter. At last meeting of the Commissioners a memorial from the butchers of the town was read, praying to be allowed to continue the practice, which has been observed from time immemorial. The Commissioners, after a lengthened discussion, refused to comply with the prayer of the memorial, and ordered the parties at once to remove the alleged "obstructions," and if not they would be immediately prosecuted. The same order is to be applied to the grocers and drapers, who are to be prevented from placing any of their wares outside the doors.

THE "LIERNUR" SYSTEM.—In accordance with instructions from the City Commissioners of Sewers, Mr. William Haywood, their engineer, has investigated Captain Liernur's pneumatic system of sewerage, has conferred with that gentleman personally, visited Amsterdam and Leyden, where the system has been partially applied, and presented a careful and valuable report on the subject. Mr. Haywood sees the objections which may be taken to the system, as well as the advantages it possesses, and in conclusion says:—"That the pneumatic system is not perfect on all points is certain, but its value must be considered by the side of the results of the existing system, with which it seems to me there is a growing dissatisfaction, and, as to its sanitary value, many doubts; and for that reason it seems to me important that the pneumatic system should have a full and fair trial in England." He thinks it would be best tried in a poor district, where, the population being usually more dense, more excreta is produced from a given area, and where the consumption of water being less, and the condition of the ordinary syphon-pans more resembling that of the pans under the Liernur system, water supply might be omitted or withdrawn from the closets without objection from the inhabitants. In the metropolis, and in most of our great towns, under the Artisans' Dwellings Improvement

Act, large numbers of dwellings for the working classes are likely to be built, and there the system could be tried under favourable conditions; in the suburbs of London whole districts are also being laid out for the residences of those in very moderate circumstances, and there a similar opportunity offers itself.—*Builder*.

TO CORRESPONDENTS.

ARCHITECT (Westminster).—You are quite mistaken. The opinions were our own, and uninspired by any medium on your side of the Channel.

THE EASTER FESTIVAL.—"A Subscriber" will understand why the Easter Festival occurs on a date seemingly wrong this year if he consults the Calendar in the Book of Common Prayer of the Church of England, or the Roman Catholic Prayer Book. The question has been ventilated for some days back in the Press. We are content to leave the question as it stands in this leap year of grace.

THE GAS SUPPLY.—A correspondent points out that the consumption of gas under the new arrangement for the October quarter, 1874, was 7,176,600 cubic feet, that for 1873 being 5,593,900, showing an increase, he says, of more than one-third. He asks how this is to be accounted for.

OCTOGONARIAN.—We would be pleased to receive any "Notes" from you or others connected with the Dublin Stage in the early years of the present century.

THE IRISH SOCIETY.—"Mr. C. E. Lewis's motion in reference to the trusts of the 'Irish Society' will come on before Easter. It is likely to give rise to an exciting debate.

A NOVICE.—Davidson's "Manual of House-Painting, Graining, and Marbling" (Lockwood and Co.) is the cheapest and best work you can procure. The price is 6s.

THROAT IRRITATION.—The throat and windpipe are especially liable to inflammation, causing soreness and dryness, tickling and irritation, inducing cough and affecting the voice. For these symptoms use glycerine in the form of Jujubes. Glycerine, in these agreeable confections, being in proximity to the glands at the moment they are excited by the act of sucking, becomes actively healing. 6d. and 1s. boxes (by post 8 or 15 stamps), and tins, 1s. 6d., labelled "JAMES ERSS & CO., Homoeopathic Chemists, 48 Threadneedle-street, and 170 Piccadilly, London." Sold in Dublin by Hamilton, Long & Co., Lower Sackville-street.

NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

Correspondents should send their names and addresses, not necessarily for publication.

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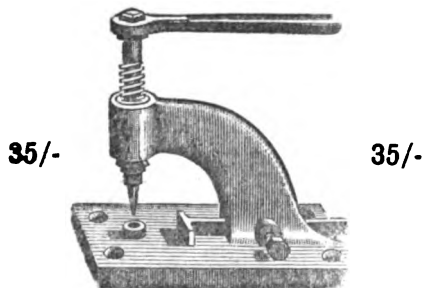
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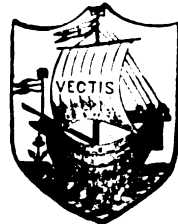
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The Irish Builder.

VOL. XVIII.—No. 390.

Dublin Port and Docks Improvements.



IN the annual report of the receipts and expenditure of the Dublin Port and Docks Board for the late year (which is prepared with its usual clearness, and which we would like to see imitated in our Corporation accounts), we are furnished some useful information. From the secretary's (Mr. N. Proud) report we are told that the final extension of the deep-water berths on Sir John Rogerson's-quay is complete, and is fully occupied by the class of vessels for which it was intended. The work has been in hands since 1869, and extends eastward from 60 ft. west of Forbes-street along Sir John Rogerson's and Great Britain quays to the entrance of Ringsend Docks. This extension provides 2,300 ft. of

deep-water quays, with 22 ft. at low water, the cost to the date of the report being £128,877. The roadway alongside used for heavy traffic is being paved in a permanent manner.

The North Wall extension includes a length of 420 ft., and block foundations laid for a further length of 80 ft. The sum of £10,003 16s. 8d. has been expended on the work within last year, making a total since the commencement of £61,656 3s. 3d., exclusive of cost of plant, which amounted to £26,415 10s. 2d. The extension of the western side of this work will be soon commenced, by extending the present north face westward, and returning parallel to the East-road for about 450 ft., leaving a width of 200 ft. quays from the East-road to the face of the returned quay. The premises hitherto occupied by the Commissioners of Irish Lights on the East-road have been vacated, and the Port and Docks Board have utilised them for trade purposes.

The work at the North Wall of deepening steam berths includes the finishing of the quay wall of the western section; the shed foundations and the necessary filling is being proceeded with. The sum of £8,125 7s. 6d. was expended on this during the year, and a total of £68,546 4s. 2d. since the commencement of the contract. This improvement will accommodate the important portion of the cross-channel steam trade with a total length of 1,750 ft. of deep-water quays, with a depth of 14 ft. at low water, and thus allowing trade to be carried on independent of tide. New shed accommodation has been provided opposite the berths of the London and North-Western Company, and this year will see the completion of more shed accom-

modation for the Liverpool service opposite the berths of the City of Dublin Company.

The dredging operations for the maintenance of the harbour have been prosecuted during the year. Berths have been deepened and improved, and the channel of the river further straightened. The number of tons raised by dredging was 772,245.

Respecting work done and work in contemplation in the city—the required maintenance of Essex Bridge by the contractor for six months after its completion having expired within the late year, final payments were made, making the total cost of the new bridge £19,587 12s. 7d. The subsidiary work done on account of culverts, in anticipation of the Main Drainage Scheme, amounted to £6,708 18s. 2d. *Re* Carlisle Bridge and the proposed new bridge, the board have agreed to promote a Bill in the present session of Parliament to accomplish these objects, a guarantee fund having been formed to indemnify the board in case the bill is not passed. The bill is prepared and lodged.

Respecting Poolbeg Lighthouse and its future charge, the Board of Trade have agreed to introduce a bill in the present session to accomplish the object. The Port and Docks Board have acquiesced, provided that previous to its transfer the agreement of 1870, to place it in a permanent state of repair, was duly fulfilled. The usual Parliamentary notice of this bill has been published by the Board of Trade.

In respect to the liability of taxes, the board has obtained one important decision in the Court of Exchequer. The court decided that the property of the board was used for public purposes, therefore exempt from such taxes as were not leviable on public buildings. This decision is, of course, not satisfactory to the Corporation. There is no doubt but the question of the rating of public buildings will again and again crop up, and will have to be thoroughly overhauled.

From the engineer's (Mr. Bindon B. Stoney) report we learn that the total length of new quay completed on the south side since 1869 is 2,293 ft. The deepening of steam berths on the North Quay during last year comprised 266 ft. of the quay wall of the last length of the west section of the works. Nine concrete arches for shed foundations were built, and the cofferdam, foreshore, and other temporary works removed.

Of the North Quay extension during the year, blocks for 450 ft. in length of the north face of the works were laid, and 423 ft. of the superstructure finished, and in addition, ten blocks were laid at Poolbeg by means of floating shears. The new shed completed on the North Wall was 240 ft. long; the second subway was finished, and the tramways are in course of completion.

Speaking of the dredging operations, the engineer reports that the quantity of material dredged during the year opposite the new quay wall on Sir John Rogerson's-quay and the North Wall, amounted to 152,445 tons. He concludes by stating that "more attention can be paid hereafter to the deepening and straightening of the channel eastward, but some years must elapse before so extensive an improvement can be completed. Fair progress, however, has been made during the year in carrying out this operation, for 376,875 tons have been dredged from the projecting sides and shallow parts of the channel between Ringsend and the Pigeon

House, and the trawler pond has been extended to a length of 2,300 ft."

Any one absent from Dublin for the last fifteen or twenty years, and re-visiting the North Wall, would certainly be surprised at the great change effected. The channel of the river is wonderfully improved, and dock, quay, and harbour improvements extensive. In our own memory there was but little accommodation for large ships, and inward and outward bound vessels and steamers were absolutely dependent on the tide. In the early part of the century the Clyde was only navigable up to Glasgow for small craft, Greenock being the place of arrival and departure for the principal shipping. All this has been long since changed by Scottish capital and energy. In course of a few years more we do not doubt but the citizens of Dublin will be more proud of their river for shipping purposes, and the more so, if it is in the meantime purified.

The accounts of the Port of Dublin for 1875 show a total of 1,677,543 registered tons of shipping entered the harbour, being higher than any previous year, the dues on which were £50,844 13s. 8d., showing an increase of 113,696 tons, or £3,621 10s. 5d. over the previous year. The increase has taken place in the following trades:—Steamers from continental ports, 8,870 tons; sailing vessels, 4,600; vessels with corn and flour, 22,354; vessels with other traffic, 3,559 tons. The coasting or general cross-channel trade shows the steamers increased 28,923 tons, and sailing vessels 3,564 tons. The coal trade steamers increased 29,274 tons, and sailing vessels, 15,544 tons. There was a decrease in vessels with sugar to the extent of 1,919 tons, and with timber, 1,073 tons.

On the whole, the report of the Port and Docks Board of Dublin for 1875 affords cheering evidence of steady progress and improvement. It is interesting to look over the statement of the registered tonnage that entered the port of Dublin each year from 1786-1800 to 1875. The grand total of tonnage of all vessels in 1788 is returned at 293,477 tons. In twenty years after the Union it was only 330,276 tons; in 1850 it was 793,400 tons; and in a quarter of a century more—1875—we have the grand total of tonnage reaching, as we have already stated, to 1,677,543 tons.

We have no desire at present to particularise any items in the accounts of the Port and Docks Board, and we will conclude by remarking that it is pleasing to find that the contractor for the works of improvement on the South Quay has completed his work, as he has done other works, to the satisfaction of the board and, we hope, to the public concerned.

THE PROPOSED SCIENCE AND ART MUSEUM.

In our last issue we stated some of our reasons for not subscribing to the Government scheme, by which the Royal Dublin Society and the Royal Irish Academy would become absorbed, and cease in a manner at once and for ever as independent national institutions. When we wrote last we were unaware of what decision the councils of either society would arrive at, or what precise course they would respectively recommend for adoption. We anticipated, however, that the Royal Irish Academy would not lend a willing hand, in view of its past history, in wiping its name out by surrendering its

trusts, property, and privileges on the condition of obtaining an increased grant. We subjoin the resolutions arrived at since our last issue, at a special meeting of the Royal Irish Academy; and, whether acceded to or not by the Government, we do not think the Academy would be justified in surrendering any one condition stated. In handing over the antiquarian collection, a great sacrifice in more senses than one is made; and the conditions of this surrender could not be too guarded or too exacting:—

That the Royal Irish Academy is willing to consent to the transfer of its antiquarian collections to the Government upon the conditions—(a) That the arrangement of the museum, as well as the purchase of additions, shall continue to be conducted by the Academy, and that adequate provision shall be made for the continued acquisition of Irish antiquities, which may hereafter be discovered, or offered for sale. (b) That the museum of the Academy, together with such other Irish antiquities as may be added to it, shall be for ever kept apart from other collections, and be permanently maintained as a museum of our national antiquities, no portion of its contents being ever removed from the city of Dublin, unless by permission given under the seal of the Academy. (c) That the Academy shall be accountable, as at present, to her Majesty's Treasury, through the Irish Government, for all sums voted by Parliament, and shall not be subject, in the conduct of its affairs, or the expenditure of its grants, to any control on the part of the Science and Art Department, or any of its officers.

That, considering the position which the Academy has long held, and will continue to hold, as the first scientific, literary, and antiquarian society of the country, the proportional representation proposed to be given to it on the Board of Visitors (sect. 12 of Lord Sandon's letter), is altogether inadequate; and the Academy further think that no paid official of the Science and Art Department should be eligible to act as a representative on the board.

That there should be provided in the yearly estimates, as laid before Parliament, instead of the several sums now annually voted, a sum at least equal to what is at present voted, to enable the Academy to discharge more completely its functions as a scientific, literary, and antiquarian body, by making grants in aid of original research, by publishing the results of such researches, by maintaining a library specially adapted to assist learned investigation, and by editing and printing ancient Irish texts, &c.

If the Government are really willing to aid the cause of Art and Science in Ireland, it cannot object to the resolutions of the Royal Irish Academy. To subject the Academy to the control of the paid officers of the Science and Art Department at South Kensington, would be to drag down a national institution to the level of a provincial branch department, and centralising the power, fame, and privileges in another kingdom which should be centred at home.

As to the future of the Royal Dublin Society, it ought to exist as an institution apart, to serve the chief purposes for which it was founded, but remodelled to suit the altered circumstances of the times. The two principal institutions included in the Government scheme should have separate buildings. It would be most unwise to house them under the same roof, although each might be brought nearer without any detriment by providing separate blocks in any intended group of buildings. The council of the Royal Dublin Society has sufficient breathing time to come to a decision. The deputation appointed to proceed to London may bring back fuller and clearer information. The interview with Lord Sandon may possibly reveal latent intentions not hitherto stated, and it is as well that all should be known.

Our opinion as to the scheme is unaltered, and we repeat it again, that, if carried out as originally intended, it would cut at the root of the existence of our oldest and chief insti-

tutions; and that this country, instead of gaining by the change, would be placed at a great disadvantage in comparison with other capitals. If what is chiefly intended be the enlargement of the facilities for Science and Art in Ireland, this can be done without destroying old and time-honoured institutions.

The Royal Dublin Society is susceptible of improvement, and so, perhaps, is the Royal Irish Academy. Appointed committees of both these bodies, assisted by public opinion outside doors could, we have no doubt, draw up reports suggesting some desirable improvements as to use and management. With increased grants, the councils of both our Dublin bodies could enlarge the sphere of their action, and perform valuable labour for Science and Art, or indeed in the direction of all arts. Under the control of a bureau at South Kensington there would be no independence, and we doubt if there would be peace for the councils or members of our Dublin institutions.

The Schools of Art of the Royal Dublin Society are historic adjuncts of that body, and no doubt its love for its offspring is deep and warm; but these schools need a larger basis, more help, and the use of a good Science and Art Museum. How this can best be obtained, the Royal Dublin Society at the same time exercising a certain respectable interest in a matter which for long years concerned it much, is the question. We hope the society will settle the question to its own and the public satisfaction, and with no injury to the future of Art. There are members of the Royal Dublin Society and of the Royal Irish Academy, who would be ready to hand over those two institutions for absorption and centralisation unconditionally, and we are sorry to say there are Irish M.P's and Irish journalists, not a few, who for years back have been throwing out feelers and paving the way on this side of the Channel, and on the opposite side, for the Government scheme.

Though we oppose the scheme, from the nature of its unwarrantable conditions, we are no opponents to the objects to be achieved in a Science and Art direction. Now, as ever, we are ready to hail and help all honest efforts to accomplish the objects for which the Government scheme was ostensibly projected. The Royal Irish Academy was founded in the days of an Irish Parliament, and members of that senate were among its representatives. That parliament has long since been extinguished for good or for ill, but the Academy still survives, historic, and growing, we hope, in usefulness and worth with its years. Whether Ireland would be better under an Irish legislature, we will not discuss here; but in its absence at least let us show we are as capable of governing our national institutions as we are our own homes, and that we have no need of proxies. The autonomy of our literary, art, and scientific bodies must be preserved intact, or our country will become denationalized.

SANITARY SCIENCE.

From the first of a series of lectures under the auspices of the Dublin Sanitary Association now being delivered in the Town Hall, Rathmines, we subjoin a summary of Dr. Grimshaw's paper, "Sanitary Science: its Object and Scope." The lecturer began by explaining the object of sanitary science—the preservation of health, and the prevention of disease. It was recognised in the

earliest times, and by the Mosaic law rules regarding the preservation of health were promulgated along with the moral law. Dr. Grimshaw referred to the precautions prescribed in the Book of Leviticus for preventing the spread of leprosy, a term which at the time, he believed, comprehended not merely leprosy in the sense in which it was now understood, but a number of contagious skin affections. The regulations there laid down for isolating the person suspected of disease, and for scraping and cleansing the house, and, if necessary, even pulling it down altogether, were far in advance of anything that was done in this respect at present. Even the heathen had a goddess of health—Hygieia. Thus the subject had more or less occupied attention in all ages. The first recognition of the laws of sanitation in these countries was by an act passed in the 12th Edward II, which imposed a penalty of £20 for certain nuisances; and an act passed in the 4th and 5th Henry VII. prohibited all slaughter-houses in cities—a step which the Dublin Corporation has not yet taken. Prejudice and ignorance had been the great hindrances to sanitary reforms. The prejudice with regard to contagious diseases was founded on the supposition that diseases were visitations of God for moral crimes. The lecturer quite agreed with that view in a certain sense—namely, that it was on account of neglect of physical laws which God had laid down. Ignorance of the laws of health was also a great hindrance to sanitary reform. This was gradually removed by watching epidemics. The first great step in this country was the passing of the act for registration of births and deaths. Since that time they had some exact data to go upon. The chief reason why greater activity had not been manifested was the slowness with which constitutional governments necessarily move, dependent as they are on the progress of public opinion. Dr. Grimshaw then enumerated the conditions of health—healthy houses, good clothing, proper food and drink, pure air, and exercise; and the conditions of disease—bad houses, scanty clothing, insufficient food, impure water, or contaminated air. These subjects, however, would be treated in detail by the lecturers who would follow him. The number of deaths from zymotic diseases during the past five years in the United Kingdom was 712,227 out of a total of deaths from all causes of 3,249,079—about 22 per cent. of the whole. The proportion in England was about a quarter, in Scotland about a quarter, and in Ireland about one-fifth. In Dublin for ten years ending 1873, the number was 1,853, out of a total of 8,177 or 22.6 per cent. Among the causes influencing the death-rate in a district were, the water supply, the condition of the houses, the climate and soil, the density of population, the proportion of pauperism, personal cleanliness, proper accommodation of the sick, and the occupations of the people. How were the causes of preventible diseases to be avoided? By a proper organisation for the removal of sanitary defects, proper authorities for the administration of the law. It had been said that the death-rate in Rathmines had been unusually high of late. This was exceptional, because it was generally much lower than elsewhere. Rathmines was favourably situated, and had great natural facilities for drainage from its elevated situation. It had no unhealthy trades; the density of the population was 12.3 per acre, whereas the average of the entire of the Dublin registration district, including Rathmines, was 31.3, and in the city of Dublin 64.7 per acre. Rathmines had, therefore, great advantages, and it ought to be a healthy district. That being so, the inhabitants and the authorities ought to take care to keep it so.

The second of the series of lectures was delivered last evening by Dr. John K. Barton on "Personal Health"—"*Mens sana in corpore sano.*"

There were only 202 applicants for the inspectorship of nuisances for the Bedford Rural Sanitary District at £200 per annum.

AN ARCHITECTURAL NOTE.

OBITER DICTUM.

It will be seen by our brief report of the proceedings of the British Institute of Architects, on the 28th ult., that three Dublin architects—Mr. J. R. Carroll, Great Brunswick-street; Mr. J. M'Curdy, Leinster-street; and Mr. J. H. Owen of H.M. Irish Board of Works—have been elected Fellows of the British Institute. These three architects are members of the nominal Irish Institute of Architects, and, for all we know to the contrary, we might have written "the defunct Irish Institute," only the word is so disagreeable. Now, we have no objection in the least to see architects, young or aged, or other people, elevating themselves, or adding more initials or titles to the end of their names. It is honest to be ambitiously honest, but prudence should dictate a consideration for matters left to stand in the position of an empty sack at home. It is proverbially known, in Ireland at least, how difficult a thing it is to make a sack with nothing within to stand upright. The Irish Institute is not being joined with the British Institute. The house in Dublin is let to take care of itself, while the members go abroad to seek that companionship which cannot be found within the empty walls that their own want of spirit and unity have made silent at home. Ireland is always prone to meet with humiliation at the hands of her own children. We had hoped for better at the hands of Irish architects in the interest of their own profession. Twice within our lifetime we have witnessed an Irish Institute of Architects established, or rather one originated, and collapsing after some years, and again revived. Alas for the professional architectural degeneracy of this city! May we trust ourselves to address a word or two to the Architectural Association of Ireland? If so, we would say to its younger members—"Do not be disappointed or disgusted by the indifference and lukewarmness exhibited around you by your elder brethren, or others, but keep together, and work, work, work, and assuredly you will eventually conquer." If we cannot have an Institute worthy of Ireland and the profession at present, let us at least have an Association of Irish Architects respectable and representative in Dublin.

THE ALEXANDRA PALACE, LONDON.

We have paid a visit to this building and its grounds within the past few days, and we were much pleased to see that considerable improvements have taken place since our last visit. The building within appears to be well cared, and the collections arranged in the best manner for viewing.

The reading-room in the Palace is a most compact and comfortable one, and is well supplied with the principal daily, weekly, and provincial newspapers. The chief professional journals and magazines are also on the table. We understand that a good library is in course of formation for the accommodation of visitors, at a mere nominal charge for entry thereto. A school of music has recently been established at the Palace, and several eminent professors attend on different days. The lessons include—The pianoforte, organ, and harmonium, singing, harmony, transposition, &c. It is intended in a short time to secure the services of the most eminent teachers of other subjects, for it is believed that the studies now commenced will ultimately develop into a regular organised School of Science, Literature, and Art. There are at present at the Palace private and class lessons for ladies. Students have free admission to the Palace on the days they receive their lessons, and the privilege is derived of purchasing at half price a general season ticket. The mother or a lady accompanying the student is also admitted into the Palace without payment on the days of the lessons.

It may interest some Irish readers to hear that a great national celebration of St.

Patrick is arranged for at the Palace; and on this occasion of the anniversary there will be two grand concerts in the afternoon and evening, an increased orchestra, festive choir, and military bands. In the Theatre of the Palace Boucicault's Irish drama of the "Colleen Bawn" will be acted. In addition, there will be on the grounds other national sports, including hurling, jig-dancing, &c., flight of figure balloons, and other amusements.

To visitors from Ireland during the coming summer we can confidently recommend a visit to Muswell-hill. The grounds in themselves in the summer are a rich treat, through the flowers and shrubs in foliage and bloom, and the Palace grounds are situated at such a height above the city that the air is clear, pure, and bracing. We might also add that there are lakes for boating and swimming purposes, and that the Alexandra Palace as a whole is well worthy of the patronage of the public. The access is ready from all parts of London, and the accommodation at the Palace, within or without, is in every sense ample for all comers. We intend to renew our visit, when we shall have something further to say.

THE SCIENCE OF HERALDRY:

ITS RELATION TO, AND USES IN, ARCHITECTURE IN THE PAST AND PRESENT.*

In the eager pursuit of knowledge which characterised the present age, Heraldry had not received the same attention by people generally as those subjects which lie more closely to their material interests and success in life; but to the student of antiquity, the archæologist, the architect, and the artist it has ever been to the more thoughtful among them a most engrossing study. Connected as the subject was with history and antiquities, it gave a clue to the elucidation of much that was obscure, and with many of the distinctions which divided the people into classes, it had unquestionably been found serviceable as the means of marking that distinction. To signalise merit and preserve the memory of the illustrious were the useful purposes of this science, which would ever secure it from contempt, notwithstanding that the total change in the military system in which it flourished had tended greatly to lessen its necessity and importance. It presented itself at too many points not to secure from the thoughtful and inquiring the attention it deserved; it was a key to the interpretation of much in our literature. Spencer, Shakspeare, and the early poets abound in allusions to heraldic science, and to signs and symbols in general use expressible of well-understood ideas. Indeed, a book might be written about the heraldry of Shakspeare or of Spencer alone. Although the literature of this science was very voluminous, it was to most people what was called a very dry subject, as all such subjects were that required time and thought to understand them. Later writers had, however, done much, and there had now sprung up an ardent desire on all sides to become acquainted with the art and science of armoury. [The lecturer proceeded to give an account of the progress of heraldry in England from the date of the Norman Conquest, and showed how it was applied to architectural and armorial devices, to the illustrations in ecclesiastical and secular buildings, and also for the purposes of domestic decoration, and especially in its connection with the signs of military emblems, which it really was in the beginning.] But it was not alone in its warlike aspect that heraldry might have a use to convey a meaning. "Peace hath its victories far more renowned than war," and its triumphs and aspirations were as capable of being depicted by signs which preached a lesson as those pertaining exclusively to battles and bloodshed, and many persons who, while professing to despise heraldry, were not unfrequently the first to adopt its principles to record their achievements in the arts of peace. The lec-

* Paper read by Mr. John Vinycombe at meeting of Belfast Architectural Association, on the 28th ult.

turer proceeded to show who, according to heraldic authority, were entitled to bear arms. This turned upon the vexed question of "What is a gentleman?" The terms gentle and noble were formerly synonymous, and were opposed to ignoble and plebeian. All who were entitled to coat armour were included in the word "gentleman," but it was more particularly applied to the lowest ranks of these, because not having any honour or title, for want of a specific term it was necessary to employ the general one to distinguish them from the "ignoble." The origin of many of the honorary symbols used in coat armour had been preserved by tradition, but when this was wanting it was an interesting task to display their hidden meaning, and by comparison of the charges and tinctures, as the figures on the shield and colours were termed, to elucidate in a scientific manner their probable origin, and, while proving that "the gentle science of armoury" did not consist of mere arbitrary signs, but was based on philosophic principles, enable the bearer to hand down to posterity some reasonable account of his ancestral honours. Heraldic devices in architecture, decorations, and adornment were explained at considerable length by the aid of some neatly-executed diagrams, and the lecturer then proceeded to show, also by diagrams, what was meant by a coat of arms—1st, the shield; 2nd, the crest; 3rd, the motto, in addition to which, but forming no integral part of the arms, was the helmet and mantling which were used to display the rank of the bearer. At considerable length and in minute detail Mr. Vinycombe explained the mysteries of heraldry, mantling, marshalling of arms, quartering, differences or marks of cadency, supporters, crests, the wreath on which the crest was placed, mottoes, impaling, blazoning, lines of partition, ordinaries, and the cross, with respect to which he said the adoption of the cross as an heraldic bearing had its origin, no doubt, at the time of the first crusade, and pilgrims took the cross as a badge or cognizance, not only in their pilgrimage but afterwards, to perpetuate the memory of their piety and zeal. It was the ensign or banner in those holy, or rather unholy, wars against the infidels, from which they derived the name of crusades. In the "Encyclopædia of Heraldry" 396 varieties of crosses were described and illustrated. The lecturer then went on to describe the different portions of the shield, the terms which distinguished its different parts, also the colours or tinctures, they being as significant as the charges or bearings. "Tricking," which was the marking out the charges upon the shield in outline, was next referred to at great length, also the attitudes of animals, which had their positions blazoned; and he concluded by giving an extract from Barry's "Encyclopedia of Heraldry," in which it was said the privilege of using armorial ensigns was first limited and select; gradual encroachments were made, and at length the custom became so common as to impair the estimation in which heraldry had before been held. Every person, from the emperor to the mechanic, pretended to something of the kind, founded on real or fictitious claims. All trades, professions, or societies, ecclesiastical as well as temporal, assumed particular emblems, and these innumerable pretenders to armorial distinctions even to the present day, coupled with the fact that the general bent of men's minds had long since been turned from the ideal to the useful, would sufficiently account for the decadence of heraldry and the decreased importance of family dignitaries. Still there were many who took pleasure in the study of heraldry, and cherish with pride the honourable emblems which distinguished their ancestors and have descended undefiled to themselves. The art was undoubtedly valuable as an historical record, and although illustrious descent was but a stigma to a man of depraved character, yet to a respectable and virtuous member of society it may serve as a noble incentive, and the fact that his ancestors were noble and meritorious would add to the lustre of his own name.

NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.*

THE lives of several of our early native actors and actresses and dramatic authors are full of vicissitudes—of bright and bounding hopes at one time, and of utter misery and despair at another. The Stage and its fascinations allured many a talented youth from pursuits that would have brought him fortune and contentment—to sport with him for awhile, and then fling him off, with a soul steeped in despair and a mind maddened and embittered by disappointments. Yet, despite of terrible obstacles, the early as well as the later annals of the Irish Stage furnish us with the names of many who have successfully mounted from the lowest rounds of the ladder to the highest, and who not only held sway in their profession, but improved the Stage, and elevated the acting Drama of their day.

In the later years of the seventeenth century, and for a long way into the eighteenth, it might be said that both here and in England the mob or factious audiences controlled and degraded the Stage. Healthy public opinion in dramatic matters was small, and powerless for good; and managers, actors, and actresses, through the low moral state of society, were obliged to pander—and, alas! many of them were only too ready—to vile influences.

The degradation of the Stage in the seventeenth century, the indecent dramas and the indecent acting, in the sister kingdom particularly, called forth many a severe rebuke, sermon, and satire. Collier and South came out in heavy denunciation of the evils and abuses of the Stage, and its supporters went on a little minding and a little mending by degrees. We might fill a volume with the criticisms of writers and lookers-on, and actors themselves, on the abuses of the Stage in the seventeenth century, the rich players of either sex being too often grievously at fault, dukes and duchesses, lords and ladies, the “noble patrons” of the Drama through their often notorious lives and actions being instrumental to the degradation of the Stage. Dramatic authors and actors reflected the characters and manners of their richest and poorest patrons in their plays, and under a thin veil the heroes and heroines of the subject witnessed their own reflex, and applauded the impersonations to which they had contributed the material. They were too proud or shrewd, of course, to be conscious of their position when the dramatic spectacle before them was an indelicate one; but they would only be too proud to acknowledge their part in the representation if the pictures were flattering to their vanity. For a picture of English audiences in the play-houses of the seventeenth century we would refer our readers to the interesting volumes of Dr. Doran’s “*Their Majesty’s Servants*.”

Connected with the early days of the regular Stage in Dublin the name of our countryman George Farquhar occurs. He was not an actor of eminence, because an untoward accident prevented his following the Stage; but he was a dramatic author of eminence. He was a native of Derry, where he was born in the year 1678. After the death of his father, who was a clergyman in the north of Ireland, Farquhar, who had entered Trinity College, was obliged to leave without completing his studies. Inclination and necessity pointed to the Stage as a profession, and, through the interest of Wilkes, young Farquhar was recommended to the then manager of old Smock-alley Theatre, Dublin. Here in the year 1695 the afterwards celebrated dramatic author commenced his short professional career at the low salary of twenty shillings per week. We are informed by Hitchcock and others that Farquhar first appeared in the character of Othello, not without some applause. Nature, however, it would seem, had not moulded him with physical and other qualities needful for a successful career upon the stage. His voice was reported weak, and he was somewhat

timid, yet withal he had a graceful person and a fair delivery, and continued for two years upon the boards at Smock-alley, and would probably have continued for some years longer, had not the accident alluded to occurred. Playing the character of Guyomar in the “*Indian Emperor*” of Dryden, he, having forgotten to change his sword for a foil, wounded his brother actor, Mr. Price, who was playing the part of Vasquez. The wound was dangerous, but it did not prove fatal. The unhappy accident had such an effect on the tender feelings of Farquhar that it determined him to relinquish the stage. After quitting the stage he found a friend and counsellor in Wilkes, who indeed from Farquhar’s first appearance on the stage until the last sad scene of his life, never neglected to befriend him. Acting on the advice of Wilkes, who had previously advised in a similar way, Farquhar took to writing plays for the stage. It may also be stated here that it was owing to the interest of Wilkes that the commission that Farquhar held in the regiment commanded by Lord Orrery in this country was procured. Ashbury, the manager of the Dublin theatre, also proved a friend to Farquhar by giving him a free benefit when he resolved upon leaving here for London.

Bidding good-bye to Dublin for awhile, he sailed, with a rough copy of his first-written play in his pocket. Shortly after his arrival the play “*Love and a Bottle*” was brought out at Drury-lane with great success, and was soon followed by another, “*The Constant Couple*,” which in 1700 had a run of 53 nights in London and 23 in Dublin—“*circumstances*,” says Hitchcock, “*which, everything considered, were equally extraordinary*.” In 1701 “*Sir Harry Wildair*,” a continuation of the former play, appeared.

In the summer of 1700 we find Farquhar doing soldier duty in Holland with his regiment, awaiting certain movements of King William. Our dramatic author, however, does not appear to have seen any hot service. While in Holland and at the Hague we hear of him determining to study the Dutch language, thinking it would be useful to himself in the interest of his countrymen. While the hero of the Boyne was in the ascendant it may, perhaps, for the moment have become fashionable to ape a knowledge of the Dutch language and manners, instead of going to France.

Farquhar was soon back in England, and in 1702 appeared a small volume from his pen, entitled “*Miscellanies*,” comprising letters, poems, and essays. Leigh Hunt, who has written appreciatingly of Farquhar in general, says that this volume had little merit with the exception of an “*Essay on Comedy*.” It is plain that this little volume was a literary venture, produced under pecuniary pressure. The volume is noticeable, too, for containing a literary portrait of the author himself, which is acknowledged by his critics to have been drawn with much candour.

Farquhar’s play of “*The Inconstant, or the Way to Win Him*,” appeared in 1703. The play is based on Fletcher’s “*Wild Goose Chase*.” It kept the stage for some years. Some time about the above date Farquhar married, and the event and sequel are full of dramatic interest. Speaking of this union, Mr. McCarthy writes:—“*A lady had fallen in love with him, and knew of no better way to recommend herself as his wife than by pretending to be in possession of a fortune. The grateful and gallant dramatist took the wife without being so polite as to secure the fortune; and, though the lady confessed to him that her love had played him a trick, or perhaps out of a secret and not unamiable vanity of comfort in the confession, Farquhar not only forgave her, but never breathed a syllable of reproach*.” This was only another instance of his gentleness of character.

In 1704 Farquhar produced the “*Stage Coach*,” and in 1705 we find him visiting Dublin, with his finances at a very low ebb. He cast about for subscriptions for his works, and, finally, he obtained leave from the Duke

of Ormond (being at the time in the army) to perform his own “*Harry Wildair*” for a benefit. The performance brought him one hundred pounds, but did not add to his theatrical reputation as an actor. Shortly after he started to London, and anon the curtain fell on as sad a scene, taken with all its surroundings, as any in the lives of our native dramatic authors or actors. Of other plays by Farquhar there were—“*The Twin Rivals*,” in 1705; “*The Recruiting Officer*,” in 1706, an improvement upon his previous plays; and “*The Beaux Stratagem*,” the best and, we believe, the last of his plays, in 1707. Before the production of the last of these plays, our author’s health began to decline through increase of anxieties, having the duties of his regiment to attend to, and the wants of a young family. The last years of his life were at best a hard struggle to keep the wolf Poverty from the door. The last straw that broke the back of the camel came on poor Farquhar in the shape of a cruel deception. A patron buoyed him up with hopes of preferment, and induced him to sell out of the army. When the proceeds were exhausted, the deceived dramatist found his patron a heartless liar, and himself almost penniless, and with no prospect. Even in this state, and in his sick chair, he took to write his last drama, “*The Beaux Stratagem*,” which he finished in six weeks. The sprightly play drew “*crowded houses*” at the Haymarket Theatre during the season 1707, and at the very moment of its highest success upon the stage poor Farquhar, at the early age of thirty, was breathing his last breath in poverty and pain at home. He received £30 from Tonsor for the right of printing the play, and a something additional from the manager.

On the 8th of March it was first played, and on the following month the grave had closed for ever over all that was mortal of the dramatist. Farquhar’s place of interment is a matter of uncertainty, but he is supposed to be buried in St. Martin’s-in-the-Fields, London. To Wilkes, his fast and faithful friend, the dying dramatist wrote this short and feeling letter:—“*Dear Bob,—I have not anything to leave thee to perpetuate my memory but two helpless girls. Look upon them sometime, and think of him that was to the last moment of his life thine*.” —GEORGE FARQUHAR. Dr. Doran writes (1864):—“*Farquhar’s confidence in his friend was like that of La Fontaine, who, having lost a house, was met in the street by a friend who invited him to his. ‘I was going there,’ said the simple-minded poet*.”

Wilkes did not disappoint Farquhar’s expectations. We have it, however, stated in a volume by Mr. McCarthy, previously alluded to, published in 1846, that “*it is melancholy to think that his friend was either neglectful or incapable of discharging the tender trust committed to him*.” It is further mentioned that Farquhar’s widow died in circumstances of the utmost indigence, and that one of his daughters was married to a low tradesman, and died soon after. The other, we are told, was living in 1764, in mean and low circumstances, without the least refinement, taking no pride in her father’s fame, and fitted in every respect for her obscure position—in a word, her low station is said to have been that of a maid servant. Mr. McCarthy makes sure of these statements upon the authority of Leigh Hunt, whose criticism otherwise of Farquhar’s character and works are, on the whole, just and discriminating. In justice to the memory of Robert Wilkes, who was another countryman of ours, at least by birth, we are bound to say that more than one authority agree that after Farquhar’s death, as well as during his life, Wilkes evidenced his faithfulness and benevolence.

Coming back to the stage in this city at a date shortly previous to 1700, we find Wilkes playing in Dublin under Ashbury, at Smock Alley, where he continued till some time in 1698. In this year, on the invitation of Rich. the manager of Covent-garden, who offered a salary of four pounds a week, Wilkes made

* See ante.

up his mind for leaving here for London. The salary at that time was considered handsome, and indeed it was quite equal to what the celebrated Betterton was drawing. Parting in good terms with the manager of the Dublin stage, he took his leave, and his rise was rapid, his merit and good acting raising him in a few short years to the head of his profession. Of his subsequent career and representation on the London and Dublin stages, as well as other contemporary matters of local and general interest, we will proceed to tell in our next paper.

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

It is worth comparing betimes the social life of our people in the sixteenth and seventeenth centuries with the present time. The old merchants of Dublin were noted for their hospitality, and the mayor during his year of office was a real City Father. The chief magistrates were bountiful and charitable with their own money, and not that of the citizens; and, with all their wild extravagances in the squandering of their own resources, they did not neglect the welfare of the city over which they ruled.

The pages of Hollinshed may be consulted for quaint pictures of social life in Dublin in the sixteenth century. Patrick Sarsfield, the mayor of the city in 1554, was a good specimen of his class; his bounty was dispersed far and wide, and his house an open one from year's end to year's end, from early morn until late at night. Hollinshed, in his "Chronicle," thus tells of Patrick Sarsfield's replies to a friend who inquired of him what he thought his expenses were during his year of office. We give the old orthography of the chronicler:—"Truly, James, I take between me and God when I entered into mine office the last saint Hierome his daie (which is the morrow of Michaelmasse, on which daie the maior taketh his oth before the cheefe baron at the exchequer within the Castle of Dublin). I had three barnes well stored and thwact with corne, and I assured my selfe that anie one of these three had been sufficient to have stored mine house with bread all and beere for this yeare. And now, God and good companie be thanked, I stand in doubt whether I shall rub out my maioraltie with my third barne, which is well nigh with my yeare ended. And yet nothing smiteth me so much at the heart as that the knot of good fellows that you see here [he meant the sergeants and officers] are ready to flit from me, and make their next yeare's abode with the next maior. And certis I am so much wedded to good fellowship as if I could maintaine my house to my contentation, with defraeing of five hundred pounds yearlie, I would make humble sute to the citizens to be their officer for three years to come." Hollinshed continues:—"Over this, he did at the same time protest with oth that he spent that yeare in housekeeping twenty tuns of claret wine, over and above white wine, sacke, malmesie, muscadell, &c. And in verie deed it was not to be marvelled, for during his maioraltie his house was so open, as commonlie from five of the clock in the morning to ten at night his butterie and cellars were with one crew or another frequented. To the haunting of which ghests were the sooner allured, for that you should never make him or his bedfellow (such was their buxomnesse) once frowne or wrinkle their foreheads or bend their browes, or glowne their countenances, or make sowre face at anie ghest, were he never so meane. But their entertainment was so notable as they would sauce their bountifull and daintie faire with heartie and aimable cheers. His porter or anie other officer durst not for both his eares give the simplest man that resorted to his house Tomdrum [Dundrum] his intertainment, which is to hale a man in by the head and thrust him out by both shoulders. For he was fully resolved that his worship and reputation could not be more distained than by the currish intertainment of anie ghest."

Further, we are told by the quaint old chronicler—"Some of his friends that were snudging peniefethers would take him up verie roughlie for his lavishing and his outrageous expenses, as they term it. Tush, my masters (would he saie); take not the matter so hot. Whoso commeth to my table and hath no need of my meat, I know he commeth for the good will he beareth me; and therefore I am beholden to thank him for his companie: if he resort for need, how maie I bestow my goods better than in relieving the poor? If you had perceived me so far behind hand as that I had bene like to have brought haddocke to paddocke, I would patientlie permit you both largelie to controll me and friendlie reprove me. But so long as I cut so large thongs of mine oun leather as that I am not yet come to my buckle, and during the time I keep myself so farre afloate as that I have as much water as my ship draweth, I praeie pardon me to be liberal in spending sith God of his goodnesse is gracious in sending."

Patrick Sarsfield was a worthy and munificent City Father of the sixteenth century, and what he dispersed, as Hollinshed said, was his own, and "at the end of his maioraltie he ought [owed] no man a dotkin." Dublin had other mayors not unlike "Patrike Searsefield," or Sarsfield, as we should call him. Some time previous to Sarsfield, Nicholas Stanihurst kept a good house, and had lords and lord chancellors as his daily guests. There was also Fian, or Fyan, who was twice mayor; Sedgrave, or Segrave; Thomas Fitzsimons, Robert Cusacke, Nicholas Fagan, and some others. Dublin was remarkable for the charity of its wealthy citizens in these times. The poor prisoners at the Castle and at Newgate were daily relieved, mostly by the citizens. It may be added that Dublin swarmed with beggars also at this period and long after, and, as Hollinshed said, "they make the whole civitie in effect their hospitall." We live in different times now; there is charity and benevolence still in the old city, but our mayors and corporate officials spend more than their own, and with few bright exceptions of late years corporations show their charity at times with other people's money. It was a late well-known merchant and corporator who wrote that full and plenty was at such a low ebb under some of our lord mayors of the Reformed Corporation, that the rats in the Mansion House had got the rheumatism and the mice the catalepsy! How unlike the times of Patrick Sarsfield, mayor, and his contemporaries!

There is no writer in modern times whose works have been submitted to such an amount of criticism as Shakespeare. From the days of our Irish Malone down to the still living English critic, Payne Collier, the utterances of Shakespeare have been distilled and re-distilled, and his words twisted, turned, and changed in such a manner that it is perhaps doubtful if the great dramatist would recognise them were he to revisit the world. For several years back dramatic and other literary critics, through the pages of our literary journals, have been attempting to improve the text of Shakespeare. There is little doubt but in the early edition of the dramatist's plays many typographical errors have been perpetrated, but we do not subscribe to many of the new readings put into Shakspeare's mouth by ardent and enthusiastic critics. Great allowance must be made when we come to study the works of the dramatist—language and manners have greatly changed since his plays were written, and sentiments that seem odd, and perhaps wild and uncouth, had a far different meaning in Shakespeare's time. A love of Shakspeare is one thing, and a just and discriminating praise of his dramas another; but we are utterly opposed to the Shakspeare craze that has existed for years, by which the great dramatist's writings are made to subserve a variety of ends. The plays of Shakspeare are not the Holy Writ, and it is a senseless proceeding to be making the dramatist's works answer every call, as if

they were more appropriate for a text-book than the Bible. At this hour of the day, or the world, we need to know little more of the great dramatist's works; they are before the public, and they are, from their price, accessible to all. It would be a pleasure and a satisfaction, however, if we knew a little more of his life and career apart from his writings. In contrast to some recent criticisms on the Hamlet of Shakespeare in the sister kingdom, we will give the opinion of a Dublin critic on the play in 1793. Hamlet's madness, our critic says, is sometimes ill-dissembled; in his conversation with Rosencrantz and Guildenstern he often betrays himself, and in his last interview with the lovely and unfortunate Ophelia he deals rather in wise saws than in incoherent starts of insanity. Nor does the derangement of his mental faculties once appear in the closet scene with his mother. His mistaking Polonius for his betters certainly justifies, in some degree, the murder, but he ought not, thinks our critic, to exercise his wit over the reeking body—

"Indeed this counsellor
Is now most still, most secret, and most grave,
Who was in life a foolish, prating knave.
Come, sir, to draw toward an end with you."

Here Shakespeare, considered our Dublin critic, exposes himself to the censure of human nature. In such a situation, and under such circumstances, would any man, our critic asks, attempt to be witty? Besides, Polonius was the father of Ophelia, whom Hamlet acknowledges to have loved with sincerity. Hamlet is certainly not accountable for the distraction and death of Ophelia, nor did he come to interrupt the funeral rites. But, concludes the critic—"I cannot forgive him for declining to kill the king in the act of praying. If he could obtain blood for blood, why should he endeavour to deprive the unfortunate man of all chances of salvation? Why carry this revenge beyond the limits of the grave? On this occasion he acted not only unlike a Christian, but in a manner unworthy of the noble mind with which the poet has endowed him. Nor can I omit to observe that Shakespeare's faith in the efficacy of prayer must have been very great, indeed, if he could believe that a few short prayers only were sufficient to atone for the horrible crimes of incest and murder.

"Am I then revenged
To take him in the purging of his soul,
When he is fit and season'd for his passage."

We commend the above criticism on Hamlet to the attention of some Shakesperian critics in England. On another occasion we may show how another Dublin critic of the same period defends Shakespeare, and replies to the above criticism on Hamlet.

Men are now endeavouring to render vessels bullet-proof, bomb-proof, and torpedo-proof, the vessels themselves being sailing upon a destructive element that is necessary to keep outside. Our houses have more stable foundations than our ships, but they are neither earthquake-proof nor fire-proof. In fact some thousands of our dwellings are not proof to cold, trembling, disease, or even to falling down, and committing suicide of their own accord, their builders having paved the way for the sudden termination of their existence. Fire-proof houses and other structures and materials have long been desiderated, and the attempts to invent or make houses or materials uninflammable is no modern idea. We read of an inventor in the last century obtaining from Catherine of Russia a premium for a discovery of a certain kind of pasteboard which no fire could consume or water soften. The inventor proposed it as a necessary lining for the wooden houses of his country, and for the clothing or lining of ships of war. This great discovery, after all, was nothing more than a preparation of alum in the material employed. This secret or process was known to the Greeks centuries previous, and was used in the time of Sylla, at the siege of Athens. Q. Claudius Quadrigarius writes—Sylla then brought his forces to set fire to a

tower, which Archelaus had placed there; he came, he piled faggots, he set them on fire, and after an obstinate labour he could not make the tower take fire, as Archelaus had covered the planks entirely with alum.

Such a simple preparation as the above in these days would avail little in a military sense. It is now not merely necessary to burn to conquer a foe or destroy a city. Dire destruction can be accomplished without flames. In a civil and domestic sense, however, it would be very desirable that we could render our buildings, public and private, fireproof; and in small matters alum might be found useful to retard the destruction of certain materials in our buildings, inclusive of articles of furniture and ornament. We have, after all, made but small progress in the invention of fireproof materials. Fire and water are two of the most valuable of our elements; they are boons to man, but he has, after the lapse of thousands of years, only learned to partially control their power. Art, indeed, is long, and the monuments of stone raised by man outlast several centuries; but time at last crumbles them down to dust. Puny, short-lived, yet withal great intellectual man, the architect and builder of all, passes through life neither fireproof nor waterproof, and scarcely proof to a simple cold in his native climate. How little architects and others think of building up and keeping in healthy repair their own constitutions. H.

THE ADELAIDE HOSPITAL COMPETITION.

WE have been favoured with a copy of a circular recently addressed, by order of a highly-respectable body of gentlemen in this city, to the six architects therein named. Issuing from so enlightened an assembly, so largely composed of, and so accustomed to deal with, professional men as is the committee of the Adelaide Hospital, we should at least have expected that, having admitted the need of an architect being consulted at all, they would have shewn a fair appreciation of the value of his time and services; that on all points, as representing a Christian institution, they would have followed the command to do to others as they would be done by; that, having decided on competition, they would have taken all pains to enquire into and avoid the blunders of former building committees; and that thus they would have placed their conditions before the architects invited to compete, in a form calculated to secure their approval and hearty co-operation. Judge, therefore, our disappointment on perusal of the circular, which we print *in extenso*, at finding many of the clauses so often noticed and condemned in these columns, still retained; and, crowning all, the stipulation that *three* of the designs may be used as the committee think best:—

Adelaide Hospital, Peter-street,
Dublin, 9th March, 1876.

SIR,—Considerable additions and alterations to this hospital being about to be carried out, the managing committee have directed me to communicate with you, with a view to ascertain if you would be willing to enter into competition with the under-mentioned gentlemen—viz., Messrs. Henderson, Drew, Deane, McCurdy, Lanyon, and Bridgford,—upon the following terms:—The three best plans furnished and deemed by the committee most preferable, to be the absolute property of the committee to use as they may think right, the following remuneration to be paid therefor—viz., £40 for the best of such plans, £25 for the second, and £15 for the third, the other three to be returned to the gentlemen furnishing the same; each plan to be accompanied by an approximate estimate of the cost of each separate building contemplated to be built. The gentleman whose plan is accepted as the best is not necessarily to be selected to carry out the work. The gentlemen who compete are to guarantee that their designs will be carried out at a cost not to exceed 10 per cent. on the amount of their estimate. I shall be glad to be favoured with your reply at your earliest convenience.

(Signed) JAMES FRANKLIN,
Assist. Sec. and Registrar.

We have the pleasure of knowing the gentlemen invited to compete—they occupy

high positions in their profession, and therefore we can hardly believe the committee ever seriously intended to ask any three of them to put aside their usual business (for the majority of them are not dependent on competitions for employment) and supply, and give up all interest in, their "Designs for a New Fever Hospital and other Additions," for premiums amounting in the aggregate to £80!!

At first sight we felt disposed to cavil at the clause stating that the author of adopted plan (not of necessity the first prize) might not be employed to carry out the work; but now, on second thoughts, we see there is no intended disparagement of the gentlemen competing, for, as it must be clear that they, from the etiquette of practice, would abstain from meddling with each others' designs, so it also must be borne in mind that the committee are the would-be possessors of three sets of plans for £80!! ready for "cooking," and therefore they most wisely reserve for some lucky (?) outsider the pleasure of carrying out some building—a thing of shreds and patches, an hospital after the committee's heart.

We have spoken strongly on this matter, as we continue to entertain strong feelings as to the abuse of the competitive system; but if we have misconstrued the meaning of the circular, we apologise to the committee *in globo*; however, if we be wrong, on the other hand, the committee must then be truly sorry that any communication capable of the interpretation we have indicated should have emanated from their body.

So far we are ignorant of their feelings on the subject, and of the answers returned by the architects; at the same time we can foresee, and must regret, that this competition, doubtless originating from the purest and highest motives, and for buildings calculated to confer on humanity some of the greatest blessings placed within our control—viz., comfort to the poor especially in time of sickness. We regret, we repeat, that through bungling at head-quarters this competition is doomed to share the fate of many others, and terminate in general dissatisfaction to all concerned. *

DEAR DAME DUBLIN.

Dear Dame Dublin, I would rather
That your sad plight were unseen.
Once you had a City Father,
Sons and daughters, sweet and clean!

Dear Dame Dublin, how I pity
Your distressing state to-day!
With a Father of the City
There should be "a right of way."

Dear Dame Dublin, oh, how humbling
To your name and ancient race,
Mist of dirt-heaps, houses tumbling,
Lo! you're down, and in disgrace!

Dear Dame Dublin, bid each daughter,
Bid each son you have, to rise!
And demand pure air and water,
Homes that will not brutalise!

Dear Dame Dublin, can you gather
Hope from all you hear and see?
Ah! I fear your City Father
Is a Father in Law to thee!

CIVIL.

ARCHITECTURAL ASSOCIATION (LONDON).

At the last fortnightly meeting of this body, on the 8rd inst., Mr. H. C. Boyes, Vice-President, in the chair, a number of new members were elected. A warm vote of thanks was passed to Messrs. Cubitt, the eminent London building firm, for permitting the visit to their works of the members of the association. Professor Kerr then proceeded to lecture on "The Treatment of Scientific Engineering Artistically," and at its conclusion a discussion followed on the part of several members. We may return to the subject of Professor Kerr's paper, which deserves reproduction and notice. On Saturday last a visit by a number of the members of the association was made to the Church of St. Agnes, Kennington Park, now in course of erection, from the plans by Mr. G. G. Scott, jun. At the meeting of next Friday evening a paper will be read by Mr. T. Roger Smith on "The Metropolitan Building Act."

CORRESPONDENCE.

THE ROUND TOWERS, OR REED-HOUSES, OF IRELAND.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Your reviews and remarks on the Round Tower controversy have done a valuable service to Irish archæology. Now that these notices are finished, you will, I am sure, give space in your columns for some remarks to one of those whose books on the subject have been passed under review.

The tribute to the memory of Mr. Brash in your late numbers was both just and graceful. He is certainly a loss. I have had the pleasure of being associated with the antiquaries of South Munster, whose headquarters were in Cork, and of whom Mr. Brash was a distinguished member. Their ranks are now sadly diminished. We often met at the examination of a *folach-fiadh*, an old castle, a *crom-leacht*, and a Round Tower. It will not be any disrespect for his memory to comment on his views in the course of these remarks, for his object was to find out what was true, and truth can never be injured by discussion. He certainly proved that the Round Towers were never erected to serve as belfries. But how came it that the ardent seeker and discoverer of Oghams did not see a very striking objection to them as mausoleums or monumental structures? There were more than one hundred of these towers in Ireland, and not a letter or an emblem was ever found on any of them to indicate that they were monuments of that kind. If they had been erected in pagan times for that purpose, the *Ogham* would have been found on some one of them; if in Christian times, the *Oraid* or the prayer. But what is found on them? Emblems that indicate a different object altogether.

The Round Tower itself is an emblem. There is certainly something in a name; and Mr. Brash came near the popular Celtic name of the Round Tower. It is not *goilcach* or *quilcach*, as he says, but *cuilcach*. You have many intelligent readers in the districts of Ireland where the old tongue is spoken, and where Round Towers exist. I am sure you will give space to them to contradict what I here say, if it is not true, and to even throw any light they can on a subject for the discussion of which certainly no publication in Ireland is more appropriate than the *IRISH BUILDER*.

The word *goilcach* means *broom*; the word *cuilcach*, a *reed-house*, from *cuilc*, a reed, and *teach*, a house. The reed is the emblem of St. John the Baptist, the patron and prototype of the ancient Christian baptistery. In an ancient rubric of the Church it is recommended that, when convenient, a figure of St. John baptising Christ would be put on the baptistery. It is on the Round Tower of Brechin. The ancient baptisteries were sometimes round, sometimes hexagonal, and sometimes octagonal. Those Irish ones are certainly round; and the Round Tower of Keneigh, near Bandon, is hexagonal as well as round.

Another emblem in another tower: Roscrea, in the County Tipperary, has a fine Round Tower of the true type, with its door 15 ft. from the foundation, and its large angular-headed window 15 ft. above that. On a massive stone in the right jamb of this window is cut the figure of a ship, with a small cross near it, and under it an inscription, which is now illegible from the action of time. What is that ship?—No one ever before found out, though there is in it a deep symbolical meaning. It is a representation of Noah's Ark, which in scripture is mentioned as a figure of baptism, and which has been often placed as an emblem on the baptismal structure. In the First Epistle of St. Peter, chapter iii., we read—"In the days of Noe when the ark was building, wherein a few, that is, eight souls were saved by water... whereunto baptism, being of the like form, now saveth you also." "As Noe," says St. Augustin, "was, with his, delivered by the water and the wood, so is the family of Christ



MR. LAWRENCE EGAN'S PREMISES NORTH WOKING ST. DUBLIN - O'Neil & Byrne Architects

Photo. Little, Dublin.

by baptism." The ship and the cross on the Round Tower of Roscrea are an emblem of the ark, which was a figure of baptism. There is a description, with illustration, of these figures in *Etruria-Celtica*, by Sir William Betham, vol. ii., p. 218.

In the church of Moulton, in England, there is an old baptismal font which has three designs on the basin—namely, St. John baptising our Saviour in the Jordan, Philip baptising the Eunuch, and the Ark of Noah, with the dove. (See *Church of England Magazine* for 1853.) Here is surely a coincidence, but which no writer on the Round Towers ever noticed before.

And what of the door and large window, and internal arrangement of the Round Tower? Are they borrowed from any object in nature or art? No writer of any former theory has been able to throw any light on that matter. There is the elevated door in the side; the under compartment beneath the landing at the door; the large window above the door; and the three or four or more storeys inside. All this is borrowed from Noah's Ark. The sixth chapter of Genesis says:—"Thou shalt make a window in the Ark, and in a cubit shalt thou finish the top of it; and the door of the Ark thou shalt set in the side, with lower, middle chambers, and third storeys shalt thou make it."

The door was to be in the side, high up out of the water; and the door of the Round Tower is high up. There was to be an under compartment, in which, according to ancient and modern commentators, was contained fresh water for the use of those in the Ark; and in the Round Tower is an under chamber, in which was the font, according to the arrangement in the ancient baptisteries. There is also the singular window, and the different storeys inside. Is not this very striking? and yet it never presented itself to any other writer on the Round Towers.

A short time ago an archaeological discovery was made in a part of London. It was that of an octagonal chamber several feet under ground, and in the middle of it a bath made of stone. It is believed to be the under chamber of an old baptismal tower which remained, and was covered up after the tower itself had been removed. The under chamber of the baptistery, where the font was, symbolised the lowest compartment of the Ark, which was supposed to contain the fresh water. This probably will set people thinking.

The other details of the Round Tower, or Reed-house, are too many to be explained here. Its presence near the episcopal church, where the public baptisms were performed, is significative, as are, also, the four windows on the top facing the "four winds," or the four quarters of the globe—a figure which is still observed in the blessing of the baptismal font at Easter and other seasons of the year.

I fear, sir, that I have trespassed on your space too far. But I should strive to do some justice to this subject which has engaged the pens of architects, engineers, doctors, barristers, travellers, artists, and poets. The group was not complete without the priest, and he has come to proclaim his theory on the subject, and to defend it.—Very truly yours,

RICHARD SMIDDY.

Aghada, Rostellan, Co. Cork.

[We are always glad to receive a communication from our reverend and accomplished correspondent, and our pages are open to all, and particularly to those like him whose tongues have not lost the mellifluous *brogue* of the vernacular. Respecting our correspondent's last sentence—that "the group was not complete without the priest, and he has come to proclaim his theory on the subject, and defend it"—we will say that, however men's opinions may differ, the Rev. Mr. Smiddy's contribution to the Round Tower controversy has its value, and not a light one. The writer of the series of articles in the *IRISH BUILDER*, who has conscientiously

reviewed all the sundry theories and surroundings of the vexed subject, although he has no distinct theory of his own to proclaim (at least at present), adds one more name to the group, and perhaps renders it more complete in the person of the practical workman. Such at least was once the writer's position in his earlier years; but long since literary tastes and congenial studies have transformed the disciple of the building art into the literary craftsman and professional journalist. It may not be amiss on our part to say this much *en passant* of the authorship of "The Literature of Gothic Architecture in Ireland."—Ed. I. B.]

RAILWAY ACCOMMODATION IN THE WEST OF IRELAND.

TO THE EDITOR OF THE IRISH BUILDER.

I HAD recently a conversation with a leading merchant of this place relative to the all-engrossing topic of railway accommodation for this rising and important locality. I asked him the vital questions—How did the late meeting act? Was there much money subscribed, or were many shares taken? Did the landowner subscribe, and how much? His answer was *nil*! Now, sir, is not this too bad? Here we are, living in the richest and most interesting part of this great county, and in the latter part of the nineteenth century, without any sign of the great civiliser coming amongst us. Whose fault is it? Certainly not that of the people. No Act of Parliament has been obtained as yet for the branch (Claremorris to Ballinrobe), nor is it likely that the Midland Company will ever make it unless a great part of the shares be subscribed for. They never would have undertaken the Edenderry branch had not a rich landowner in that town taken one-fourth the capital in shares, nor will they have anything to do with the Ballinrobe line till they have some good guarantee from the owners of property, or the two baronies through which the line will pass.

There is a great objection (many seem to think) in running this line through Lord Lucan's property, from the difficulty in dealing with his lordship or his agent for the land that would be required for the railway. This objection (if it be true) can be overcome by making Tuam instead of Claremorris our starting point—the extra distance would be counterbalanced by the greater advantage the branch to Tuam would have in uniformity of levels, and with no river bridges to build, or other large works to construct, besides accommodating a larger and more prosperous community, tapping in its course the traffic of the towns of Headford, Shrule, Kilmaine, and Cong.

The rich baronies of Dunmore, in the county Galway, and Kilmaine, in Mayo, might be influenced to give the required guarantee, otherwise I fear the whole project will fall to the ground. A good number of the shares would be bought up by the merchants and traders in Tuam and Ballinrobe, and finally it would be the interest of the Waterford and Limerick Railway and the Great Western of England to have this "feeder" to their system diverting a great part of the trade of the north-west and south of the kingdom into the channel of the Waterford and Limerick and Great Western Railways.

Sir A. Guinness would, I am sure, be favourable to the Tuam extension; so also would be other landlords in the neighbourhood, such as Captain Knox, Mr. Tighe, J.P., Lord Kilmaine, &c., &c. Mr. Mitchell-Henry, whose princely estate is in Connemara, would, I feel certain, forward the undertaking with his wealth and influence. He has to post it nearly forty miles over rough country roads to his exquisite seat at Kylemore Castle, either from Galway or Westport.

TRAFFIC AND SCENERY OF THE LINE.

From thirty to forty tons of merchandise are conveyed daily between Claremorris and Ballinrobe, and say one-half that amount between Galway and Ballinrobe, *via* Cong—an amount of traffic which would be at least doubled were the railway opened to Ballinrobe. In addition to the increased business activity which the town would derive from being accessible by railway, a very large influx of tourists would most probably select Ballinrobe and Cong as their route to the Western Lakes and Highlands.

We know of no more charming scenery than that which is to be found at the latter place. The venerable Abbey, round whose ancient walls linger the conserving spell of time-honoured memories, and at whose base reposes the last monarch of Ireland, Roderic O'Connor; the magic beauties of the noble Corrib, deep and waveless as an inland sea; the rugged scenery of the surrounding moun-

tains, overhanging the dark waters of the broad Lough Mask; the beautiful demesne of Ashford, the seat of one of Ireland's merchant princes, Sir A. Guinness, Bart.; the natural curiosities of Cong presented by the "Pilgrim's Cave," the "Ladies' Buttery," the "Horse Leap," &c.—all these constitute a series of attractions of the highest order of scenic beauty.

Were the railway extended from Tuam or Claremorris to Ballinrobe, there is every reason to believe that large numbers of tourists would flock to Cong, and follow in preference this route to Maam and Clifden. From every point of view the proposed extension to Ballinrobe would be of immense service to that town and neighbourhood, and we trust no time will be lost in taking practical measures for carrying into effect the proposed scheme. I select the following from a contemporary:—"The Midland directors are under the impression that an extension to Ballinrobe would depreciate (?) the shares of the main line, and say they would require a sum of £13,000 to be handed over to them as a kind of compensation for assumed loss in value of their shares!" Does not this show you and the public that the Galway company are coquetting the Mayo people? There is another party, thank heaven, who have their own and our interests at heart, and will not thus despise the desires of so respectable a community as that of Kilmaine in Mayo and Dunmore baronies in Galway. The Waterford and Limerick Railway Company is the party to whom I allude; their system extends from Waterford to Limerick, Ennis, Athenry, and Tuam. The Tuam and Ballinrobe line will be an extension, not a branch, of their system; and should the directors see a desire on the part of the railway constituency of the locality, they will, I feel certain, not impose such a Shylock demand as £13,000, but go to work manfully, and in spite of all opposition get this interesting locality out of the nightmare of inactivity and drowsiness which seems to have crept over Southern Mayo.

I was District Engineer for upwards of three years on the W. and L. Railway. I therefore know the trials that company has gone through in those periodical seasons of adversity and gloom with which Ireland has been visited. They battled and won their laurels from another great company in Ireland, when the late lamented Mr. Vignoles was their engineer; and they will battle another great company now, if you will be true to yourselves.

I have no personal interest whatever in the subject of this letter, as I purpose retiring to the Dominion of Canada in June; and before doing so, I wish to set matters in their true light, believing, with St. Mark, that "a prophet is not without honour but in his own country."—Yours, &c.,

J. N. GILDEA, C.E.

Ballinrobe, Feb., 1876.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

At the meeting of the Institute on 28th ult., Sir G. G. Scott in the chair, Messrs. Carroll, M'Curdy, and Owen, architects, of this city, were elected Fellows, as also Mr. Thomas Wonnacott, of Farnham.

The secretary announced that six candidates had sent in drawings, sketches, and testimonials in competition for this year's Pugin Travelling Studentship. The council elected Mr. Edwin John May as the Pugin Student for this year; and in the same competition had awarded a medal of merit to Mr. Garrett, on account of the excellence of his drawings, with "honourable mention" to W. Talbot Browne.

A letter was received from the director of the South Kensington Museum, with reference to the proposed Loan Exhibition of Scientific Apparatus, asking members who may be willing to contribute to furnish at their earliest convenience a description of the objects they propose to lend.

Mr. R. F. Chisholm, fellow, Executive Engineer and Consulting Architect to the Government of Madras, then read an interesting paper "On the Palace of Tirumala Naik, Madura." A discussion followed, led by Lord Napier and Ettrick (formerly Governor of Madras and for a time Viceroy of India), and followed by Messrs. W. H. White, T. Morris, A. Cates, the President, and others.

On Monday last papers were read on the following subjects:—"On some Sixteenth-Century Chantries," by Mr. J. D. Sedding; and "Biographical Notices of Deceased Foreign Members," by Mr. F. P. Cockerell, Hon. Sec. for Foreign Correspondence.

IMPROVED RESIDENCES FOR TEACHERS.

In an educational contemporary designs and plans are given for a class of dwellings more suitable for the residences of teachers than those ordinarily provided for this deserving class of persons. We would be glad to see a determined and persistent movement in this direction, for the great majority of our present national and other teachers are housed in dwellings scarcely superior to those occupied by our agricultural labourers, and indeed in some instances inferior. If we would speed the cause of education, we must elevate the social position and surroundings of the teacher, for respect for his office on the part of pupils and their parents must be lowered instead of increased while he continues to be badly housed.

Mr. William Gray, of Belfast, and Mr. Thomas Jourdan, civil engineer, of Kilkee, furnish commendable designs. Leaving the artistic element aside, the arrangement in either case possesses merit. Mr. Gray provides in his teacher's residence an entrance-hall 5 ft. wide, lighted by a sash over door; a parlour 11 ft. by 15 ft., a pantry, a kitchen 11 ft. by 11 ft., a small scullery, with other spaces utilised for accommodation. There are four bed-rooms upstairs, two 11 ft. by 10 ft., and two 14 ft. by 9 ft. 6 in. The walls may be built of rubble masonry, if easily procurable in the locality, or otherwise of brick. Mr. Gray's house shows only one storey, lighted in the front, the bed-room floors being lighted from the gables. It appears a compact and comfortable residence withal, and ventilation has been considered. In the plans and description, however, there is no sign or mention of the w.c., whether such is provided or needed, or where it is to be found; nor have we met with a word as to drainage. Is this an oversight, or what? The cost of Mr. Gray's "improved" residence is put down at £200.

Mr. Jourdan's design exhibits as a plan an unmistakable two-storey frontage—a window on either side of hall-door, and three in the upper storey in front. The walls are to be built of rubble masonry, plastered, whitewashed, or coloured, on the outside. There is a parlour on the ground floor, 16 ft. by 12 ft., and kitchen 16 ft. by 12 ft. In an offset at back there is a pantry 6 ft. by 6 ft., and a porch alongside 4 ft. by 6 ft. The upper, or bed-room storey, contains four sleeping-rooms, all 12 ft. by 8 ft. Mr. Jourdan provides a w.c. between the two top rooms in front, over the hall, and has paid some attention to the sanitary requirements in connection. In both Mr. Gray's and Mr. Jourdan's plans space is fairly economised, and we have little doubt they could be made comfortable residences for teachers. There are some drawbacks in both plans, which a little more thoughtfulness would remedy. Plenty of room is desirable, of course, but to make a residence really accommodating and comfortable, it must be first made healthy.

HANDICRAFT AND HANDICRAFT TOOLS.

HAMMERS.

(Continued from page 67.)

THERE is on the table an ordinary magnetic needle, the ends being directed, as usual, to magnetic north and south. If, now, this common iron poker be held in the hand, and the lower end directed towards the north, but inclined about 67° below the horizontal line, the poker may be said to be in the line of the dip of the magnetic needle. Now strike the poker two or three blows upon the upper end with an ordinary engineer's hammer; it will be found that some internal change has taken place. Direct first one end of the poker and then the other to the same pole of the needle, and repulsion will be manifested in one case and attraction in the other. Now reverse the poker, making what was the lower end the upper one; strike it as many blows as were given to it before, apply it to the

magnet, and it will be found that both ends attract the balanced needle, thus showing that some change has taken place, for the poker has lost all trace of magnetic polarity. Give two or three more blows, and it will be found that the magnetic effects are the reverse of those in the first case. Such a simple experiment in the private room prepares us for results, equally unaccountable in cases where metals are subject to hammer impact, or that which is equivalent thereto; hence, for example, it is apparent why the compass needle on iron ships may be affected in consequence of the tremor to which the vessel is subjected owing to blows from waves.

Nor is it a question of apparent phenomenon alone which has to be regarded in this inexplicable work of hammers. These magnetic manifestations seem to be accompanied with internal material changes which sometimes make their existence too clear by fractures as unexpected as they are dangerous. Through the kindness of the authorities of the engine-works at Crewe, the diagrams upon the wall enable me to detail to you in general terms the results of many carefully conducted investigations into the consequences of blows as from hammers upon cold metals. In one case an axle of a locomotive tender, with its wheels, of which the diagram is a longitudinal section of full size, was subjected to a series of blows. These blows were successive, periodic, and adjusted. Many experiments were made, and the results tabulated. On the diagram is represented the axle of the tender of a locomotive, the wheels being fixed in their usual places. The dimensions of the axle are 6 feet 11½ inches long, 5½ inches diameter where the wheel is keyed on, and the axle projects 8½ inches beyond the wheel. A weight of 60 lbs. was caused to fall from a height of five feet upon the same part of the axle, viz., that marked B in the diagram. In the case of an iron axle, a crack manifested itself after 6,128 blows, and the axle was broken by 9,843 blows. When the axle was of steel, and of the same dimensions, the weight struck 50,000 blows from a height of five feet above the part B. Afterwards 3,040 blows were given by the same weight falling from a height of ten feet; then the axle broke in two pieces across the section marked A in the fig. It is remarkable that in this case there were no previous signs of injury, the sound caused by the blow preceding that which fractured the axle was as clear in its ring as that from the first blow struck. A careful examination of a fracture which has been caused by repeated blows, sometimes shows that the structure of the metal has changed from fibrous to granular, but this change often seems to be only in the line of the fracture, and not to extend to the depth of one-tenth of an inch on either side of it. Calculated according to the principles detailed in this and the previous lectures, the measure of the energy expended before the iron axle cracked is represented by

$$6,128 \times 60 \times 5 = 1,838,400$$

and after being cracked, and before the fracture by

$$3,715 \times 60 \times 5 = 1,114,500$$

making a total energy of 2,952,900. Now before the steel axle fractured, there was expended upon it, first an energy represented by

$$50,000 \times 60 \times 5 = 15,000,000$$

and this was succeeded by

$$3,040 \times 60 \times 10 = 1,824,000$$

i.e., before the fracture, the steel axle was subjected to a total energy of 16,824,000, or the steel axle before it fractured was subjected to about nine times the hammering given to the iron one before the latter cracked.

Results, as yet inexplicable, such as these, make very clear that we have much to learn in reference to the effective energy of hammers upon the materials on which they operate.

In another and even more extensive series of experiments, the effect of what in a former lecture was called the "tapping" action of hammers was investigated, for a metal rod

was subjected to continuous and uniform strain whilst rotating. The consequence of this rotation under a strain in the same direction is to bring successively the same parts of the rod into alternate expansion and compression. The arrangement of the series of experiments will be very clear on an inspection of this diagram.

A rod 12½ inches long and one inch diameter was turned out of one 1½ diameter. The larger end was tapped to the headstock of a lathe. At eleven inches from the larger diameter, and at the free end of the cantilever a weight (generally 300 lbs.) was suspended, and the bar continuously rotated. The fracture occurred close to the headstock end. It may suffice to state that an average of a series of experiments under similar conditions show that whilst an iron rod broke after 94,385 rotations, a steel one did not yield until 10,248,433 rotations.

An inquiry of much interest with respect to hammers is this—what difference is produced on a material if struck by a light hammer moving at a high velocity, and a heavy hammer moving at a low velocity. Take the problem with figures.

(1) Suppose a hammer weighing two pounds strikes a material with a velocity of 40 feet per second, then the height from which that hammer (under the action of gravity only) must have fallen would be 24,845 feet. The work in that hammer would be represented by $2 \times 24,845 = 49,690$ foot-lbs. (say 50).

(2) Again, suppose a hammer weighing 10 lbs. strikes the same material with a velocity of 18 feet per second, the height from which that hammer (under the action of gravity only) must have fallen would be 5.0311 feet. The work in that hammer would be represented by $10 \times 5.0311 = 50.311$ foot-lbs. (say 50).

Thus calculated, these two hammers are said to have the same amount of work in them, or to be capable of doing equal work. However equal in this sense the work done by these two hammers may be, yet in actual practice in the workshop these results are not generally regarded as identical.

Here are a number of croquet balls; let them represent the molecules of a material struck by these two hammers. Here are two balls of equal size, but the weight of one is double the weight of the other. It has been loaded at the centre with lead. You will observe that this row of balls on the table is really resting upon what may be described as a slightly curved concave wooden railway, the curvature just sufficient to keep the balls in contact with each other. Let this ball of light weight roll down and impinge upon the one nearest to it; the tremor passing through the series of balls drives but one ball from the further extremity. Now let the ball of double the weight perform the same operation; then two balls are driven from the opposite extremity. These are the effects, whatever be the velocities of the impinging balls, for not any increased velocity will alter the number of balls set in motion at the extremity, although it will be the distance these balls travel. It is clear that the tremor which passed through the balls in the latter case differs in degree, if not in kind, from the tremor in the former case. If, now, you will make a "scientific use of the imagination," these balls in line will be the atoms or molecules of a body, the impinging balls will be hammers of different masses, and as there are surroundings in the molecules which are not in croquet balls, evidence of facts cannot carry us further, and the speculative conclusions of the internal work done by hammers must be left to those who, to their own satisfaction at least, can pronounce upon them. One conclusion may, perhaps, be admitted. In the case of rivetting, it may be inferred that by the use of a heavy hammer the hot, soft rivet might be made to fill in the recesses of the rivet hole, whilst the lighter hammer would simply close over and finish off neatly the hammered end, without a cup swage being put over it. The heavy hammer transfers (if the expression may be allowed) its mass into the interior of the

struck material, whilst the lighter hammer, acting on the same principle, does not put so much of the material in motion. Again, this question of difference in the results is equally apparent in the case of balls shot from rifles against a sheet of glass. In the case of a small ball and high velocity there is as clear a penetration as though the hole had been drilled; in the heavy ball and low velocity there is a destruction and cracking of the material surrounding the hole through which the ball may have passed.

It may be said, and with truth, that the form of these bullets exercises a most important influence in the results now dwelt upon, and some may be asking themselves how is this branch of the subject to be connected with hammers? A few more words and we shall see. [Reference is here made to Messrs. Spon's "Dictionary of Engineering," as to the effects of shot with different formed penetrating ends, and a glance at the figures show how very much the results are affected by the form of the face of the shot.]

(To be continued.)

NOTES ON CONCRETE.*

At one time I had under consideration the cheapest method of covering a large tank or reservoir, and it occurred to me that the construction of parallel partition walls, carrying thin concrete arches, would probably be the best solution of the question. As it would be desirable in such a case that the roof of the reservoir should be covered with about 2 ft. of earth, it became a question what the minimum working thickness at the crown of such an arch should be. Apparently this was a matter of calculation, to be calculated in a few minutes, with the assistance of tables giving the ultimate strength, under compression, of concrete; or, better still, by the aid of the results of Mr. Grant's experiments on concrete blocks of various materials and various proportions of cement.†

Having the opportunity I made the following few experiments, which, as such, are very incomplete, but must be, to a certain extent, interesting, as the results greatly surprised those engineers who witnessed them.

As has been said above, the breaking load of a concrete arch is readily calculated, the crushing weight of the material being given, and in a most carefully made arch—say one constructed under the immediate eye and personal superintendence of the engineer himself—the result, as calculated, might be obtained. I, however, wished to see how such a result would be affected by the superintendence not being special, the materials not specially selected, and the labour not specially skilled—in fact, to ascertain the additional factor to be applied under such circumstances.

The arches which were constructed for these experiments were four in number, all of the same dimensions exactly—namely, the width was 1 ft., the span 12 ft., the rise 12 in., the thickness at the abutments 6 in., and at the crown 2 in. The cement was Portland, and the sand and gravel mixed as they came from the pit, and not particularly clean. The cement used was, unfortunately, not tested, but as several tests for tension were made, before and after these experiments, of cement from the same yard, it may be assumed that it was of fair average quality.

The concrete in No. 1 arch was composed of 1 part of cement to 4 parts of gravel and sand; in No. 2, 1 of cement to 6 of gravel and sand; in No. 3, 1 of cement to 7 of gravel and sand; and in No. 4, 1 of cement to 8 of gravel and sand.

The experiments were as follow:—

No. 1 arch was made on 14th August, and broken on December 14th. The load consisted of fire-bricks, carefully added (in laying each course) by equal numbers from each

abutment to the crown. Care was taken, as the courses grew up, that the bricks over the crown should not touch longitudinally. A number of bricks were weighed at different times, from which the average weight was deduced. On the 15th December the number of courses built up was 10, the number of bricks 556, and the load 4,059 lbs. On the 16th December 4 courses were added, bringing the weight up to 5,468 lbs. On the 18th 2 courses were added; on the 21st 4 more courses, and on the 22nd December 4 more courses were added; and then, while more bricks were being sent for, the arch failed under 25 courses (1½ brick thick), consisting of 1,221 bricks, and weighing 9,052 lbs., or a uniformly distributed load of 754½ lbs. per square foot of roadway. If to this be added the dead load, the breaking weight is found to be 9,521 lbs. = 4 tons 5 cwt. Assuming the curve of pressure to pass through the middle of the crown and each abutment, the horizontal thrust of the unloaded arch was 654 lbs., or 27 lbs. per square inch of section. At the time of breaking, the horizontal thrust was 17,104 lbs., or 713 lbs. per square inch of section.

Unfortunately, at the termination of the first experiments, the bricks which were loosely built up on the concrete arch until they constituted a breaking load, and to a height of 6 ft., in their fall came suddenly on arch No. 2, and fractured it.

Arch No. 3 was built on the 9th September, and broken on the 30th December. On the 28th December it was loaded with 6 courses of bricks 1½ brick thick. On the 29th 5 more courses were added, and on the 30th the arch gave way when 8 more courses had been added, making a total of 17 courses, consisting of 843 bricks, estimated at 6,070 lbs., or 506 lbs. per superficial foot of roadway. Adding to the above the dead weight of the arch, the breaking weight is found to be 6,539 lbs. When 6 courses of bricks were on, a deflexion of half an inch at the crown was observed, which gradually increased to 1 in. on the 16th or last course but one.

Arch No. 4 was built on 10th September, 1875, and broken on 3rd January, 1876. This arch, the composition of which was 1 in 8, seems to have been better put together than the last, which was 1 in 7, for it carried a heavier load before breaking. At the 8th course a slight deflection, about ¼ in., was observed, which on the 17th course increased to ½ in., and on the 20th and final one to 1 in. The way in which the arch ultimately failed took me by surprise. After the 20th course was added, it was noticed that the arch was giving way, by seeing the deflection slowly but gradually increasing, until the final rupture several minutes, probably about five minutes, afterwards. This fact and the gradual nature of the increase of deflection was plainly observed, owing to the way the bricks were built up so as to leave a clear vertical space of 2 in. over the crown. As the height of the bricks was, roughly, 4 ft. 6 in., the gradual nature of the subsidence was indicated by the slow approach of the top bricks on either side of this vertical space. The total number of bricks in the 20 courses was 911, estimated at 6,559 lbs., or a live load of 547 lbs. per square foot of roadway. If to this be added the dead weight of the arch, it amounts to a total of 7,028 lbs., the horizontal thrust from which is 12,800 lbs., or 534 lbs. per square inch of section of arch at the crown. As the weight of 2 ft. of clay may be taken as 240 lbs. per superficial foot of the tank, it is clear that a very small addition to the thickness of this arch would bring it within a sufficient factor of safety.

It is a common observation to make that it is an error in design to apply concrete in the form of an arch at all, and that its true position in work is to supply, as far as possible, the place of a solid stone slab of the same size, but I do not think that its use should be so restricted. It is, of course, admitted that to employ concrete in an arched form, where full resistance to the horizontal thrust is not provided, is false design, except the arched soffit be required for other reasons,

for in that case the mass of concrete can only act as a girder.

As girders or bresssummers, concrete beams have been employed, even to the extent, I believe, of reducing the depth of the concrete beam to one-twelfth of the span of the ope.

There are, in my opinion, many cases where concrete can be used in arches with advantage in the nature and economy of the work—in arches over windows and doors, and relieving arches over large opes, where there is a good length of wall on each side, and in small road bridges in certain places, for instance in out-of-the-way places in buildings where bricks are not to be had, and for bridges over mountain streams, where the cleanest gravel is most probably on the spot.

The resistance afforded by the abutments or walls on either side of the arches must be fully equal to that required to resist the horizontal thrust, as will generally be the case in house-building, and in bridges it must be supplied by the proper thickness of abutments. But it must not be supposed that thicker abutments are required for a concrete arch than for a stone one; the thrust of a stone arch would not be increased by the joints being petrified and making one mass with the arch-stones.

Road arches have been so constructed on the property of Richard Mahony, Esq., Dromore Castle, in the county of Kerry, under the superintendence of Mr. M'Clure, who has kindly furnished me with the particulars of these and other concrete structures on the same estate.

Mr. M'Clure writes:—"The last bridge built in 1873 is on a rapid mountain river. The abutments were built of stone, owing to the wetness of the season and the consequent danger of floods carrying away the necessary framing for the formation of concrete piers. The arch of this bridge was completed in 10 working hours by 15 labourers and 1 carpenter, who had, in the same time, to wash and prepare gravel found on the spot. The dimensions of the arch are 18 ft. span, 3 ft. 6 in. rise, 2 ft. 6 in. thick at the springing, and 1 ft. 6 in. at the crown. Large stones were cast into the concrete, pressed down without any regard to regularity of position. These bridges are almost as hard as the hardest stone, and, I believe, stronger than a stone bridge could be. The centres were not removed for two months."

Mr. M'Clure gives some further particulars of other concrete works on Mr. Mahony's estate as follow:—

"The proportions we have used on this estate for buildings, such as farm-houses, labourers' cottages, and farm-buildings, were 1 measure of Portland cement to 8 parts of well-washed sand and gravel from the bed of a river, and passed through a screen with bars 1 inch apart. The proportions used in building bridges were 1 part of Portland cement to 7 of clean river or sea gravel. Large stones are used—the roughest stones suit best—about 40 per cent. of split stone can be used safely in building concrete walls. I have used 25 per cent. in bridges. Any shape of stones can be used. In the case of buildings, the stone, or what we might call 'packing stuff,' should be placed about 4 in. to 6 in. apart, and should be at least 3 in. narrower than the thickness of walls, so as to afford a band of concrete all around. Pressure should be applied. We have simply, in the case of house-building, packed the stuff tightly into the apparatus with wooden blocks about 2 ft. long, pressing the concrete into every joint between the stones used for building the walls. The dimensions of all cottage walls on this estate are 9 in. thick; chimney walls, 18 in.; partitions, 4 in. I have built a large steading (which cost over £2,000) of concrete. The walls, in some cases, are 18 ft. high, and 12 in. thick; also, a garden wall, over a quarter of a mile long, 11 ft. high, and 9 in. thick; a cistern, 5 ft. high, 6 ft. x 5 ft., walls 9 in. thick; a loose horse-box, walls 14 in. thick, with a cistern over, resting on a concrete roof, capable of holding 8 tons of water, and which is perfectly staunch.

* "Notes on Concrete, and on some Experiments with Concrete Arches." By Charles P. Cotton, Past President. Read at meeting of Institution of Civil Engineers of Ireland, on the 8th inst.

† Proceedings Institution of Civil Engineers, Vol. XXXII.

"The chief advantages of concrete-building are rapidity and economy. If it were more generally understood, it would be largely used for buildings and bridges. I calculate at present prices (December, 1874), where gravel of a suitable description can be got within two miles of the work, the cost of a cubic yard of concrete will be from 12s. to 15s.

"Adie's testing-machine is expensive, the cost of even the smallest being £20, which places it beyond the reach of small consumers.

"I believe the consumer must depend very much on the character and standing of the manufacturer to get a pure article, just as one has to depend on the character and position of a druggist to make up a medical prescription.

"I have found that cement kept *dry* for six or nine months before being used, sets much more slowly than fresh cement, but forms harder concrete, almost as hard as a rock."

I have also learned that Mr. N. Jackson, C.E., who has charge of the West Riding of Cork, has built several bridges in concrete, using 1 part of cement, by measure, to 6 or even 8 of clean, sharp sand and gravel, packing the piers and abutments with large stones, well rammed. Mr. Jackson finds that concrete answers remarkably well for county road bridges, especially economical in the case of skew bridges.

I have also noticed, as a good instance of the application of concrete to railway works, the formation of a turn-table centre-piece bed and sides, all in concrete, on a railway embankment (consequently on made ground) erected by Mr. W. A. Scott, near Mallow Station.

[As an addendum to the above able paper, Mr. Cotton brought under the notice of the meeting several specimens of compressed bricks composed of sand and hydraulic lime, manufactured at the newly-erected works of the Patent Stone Brick Company at Harold's Cross Bridge. These bricks attracted considerable attention, and led to a lengthened discussion. The managing director of the company (Mr. Bagnell, C.E., who was present) was called upon to explain the mode of manufacture and other particulars connected therewith. Several members of the Institution expressed themselves as favourably impressed with these bricks. We understand that they are now being extensively used in and about Dublin, and we wish this new branch of manufacture every success.—ED. I. B.]

TRADES UNIONISM IN DUBLIN.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—The doings of a portion of the societies connected with the building trades of this city have, it would seem, earned for its artisans in general the reputation of being guided by most exceptional principles indeed. So often has the writer been taunted during the last few years with being far behind many provincial towns in respect of advanced ideas, and it is said, wholly incapable of progress, that he has lost no opportunity of conversing with the most reasonable of his fellows upon the subject of reform. When we see the working men of England introducing amongst us branches of societies which have placed to their credit funds amounting to many thousands of pounds sterling, advocating the establishment of scholarships in connection with their unions, and otherwise providing benefits for their members during sickness and old age, which merit the approval of all right-thinking men, it may well be said that we are behind in the march of progress. Far behind, who will gainsay, when it is known that we have had instances of men who for fifty years contributed to trades unions and were after all allowed to die in the workhouse. Nay, so much trammelled do the most thoughtful consider themselves by the combinations of the narrow-minded, that it has been suggested to appeal in forcible terms to the Press for assistance, to bring about a state of things more in keeping with the intelligence of the present day—more worthy of the working men of the building trades of Dublin, many

of whom still cling to old-world notions long ago discarded by our neighbours. In making an attempt to lead the way, the writer is prompted solely by the idea that the calling of public attention to this subject may awaken in the minds of the unreflecting the spirit to enquire, and may also stimulate the manly portion who hate every species of tyranny, to labour for the attainment of a new state of things, and for the abolition of those systems which every enlightened person knows set man against man, and trade against trade—systems that retard the prosperity of the country, and make its workmen the laughing-stock of duller people.

Without naming any particular union whose rules call for express condemnation, let me, for the sake of brevity, quote the pledge which the members of some societies are compelled to take upon their initiation. Placing his hand upon his breast the candidate is bidden solemnly to declare that—"I will not work with any man or boy who does not hold a ticket or pass from this council table." If those who labour for the elevation of our working population could enumerate all the divisions, bickerings, petty jealousies, and heartless persecutions of individuals that the observance of this pledge is causing at the present moment, the most sanguine amongst them would be led to conclude that there was small hope of our social advancement. However deplorable the existence of such a spirit amongst working men may be, and however mischievous to their own interests, its observance calls loudly for unqualified condemnation when the prosperity of the country is materially injured or interrupted by its pernicious influence. The wretched dispute which a year or two ago sent £1,000 worth of work to a Glasgow firm, merely because Dublin workmen could not agree amongst themselves to do it, has cropped up lately in a more aggravating form—a form which has raised the indignation of all honest artisans who have become acquainted with the particulars. The body that triumphed at the expense of the country upon the occasion mentioned, has pushed its monopolising doctrines so far as to attack the rights of the men of a different calling, in such a manner that it is contemplated to memorialise the law authorities for legal means to punish such interference. The facts of this case will speak for themselves.

A respectable builder who accepted a contract, a portion of which was in the cabinetmaking line, very naturally thought he was at liberty to employ cabinetmakers to execute it. Aware of the susceptible character of his carpenters, he took every precaution in order to give them no cause of complaint, and even went so far as to rent temporary work-shops, it is said, several streets from his established place of business, in which to set the cabinetmakers to work. The latter had scarcely commenced when the carpenters received an order from their directing council to "strike work" unless the cabinetmakers were discharged, and men belonging to their own body employed in their place. The builder having refused to comply with this unparalleled demand, the carpenters' council, thinking to compel him, ordered also the men whom, at much expense, he had sent to country districts—even to very remote places—to work, to quit his employment forthwith. This order they obeyed with very great reluctance, particularly those who thus sacrificed £2 10s. per week for 2s. 4d. per diem "strike" pay. The majority of the men who obeyed that summons, and who considered their employment an excellent one and their employer exceptionally liberal in paying wages, have had time to reflect; and, regretting very much the step which they took at the bidding of shallow if not intolerant advisers, now call loudly for reform. Although the builder was soon supplied with other carpenters more liberal in their opinions, still he was undoubtedly put to some inconvenience in meeting the demands of his customers, and a great deal of vexation, perhaps, in defending his conduct from the misapprehensions made by deputations which the carpenters sent to his patrons to have the cause of their strike explained after their own fashion. This, to say the least of such a proceeding, was a very unmanly course to adopt, and, I may add, a thorough un-*Irish* mode of giving fair play.

The circumstances of this somewhat uncommon "strike" have caused much comment amongst those operatives who do not countenance the exclusive doctrine which those who pledge themselves not to work with men outside of their own body labour so strenuously to uphold. True there are but two or three unions in Dublin guided by this selfish spirit, and it is to be hoped that even these, for the sake of the growing prosperity of the country, if not of our boasted Christianity, will discard such a doctrine in future. Such a blot ought to be no longer allowed to remain upon the character of Irish working men. Did space permit, the writer could trace nearly all the evils which beset his class to this unsocial point of exclusiveness. It estranges

brother from brother, and the son from the father, for no relationship will exempt non-members of such a union from the dreaded, nay, the cowardly strike. A man's family may starve for the bread which, by all laws, human and divine, he is bound to provide, and though trade be never so brisk, he dare not follow his calling unless he becomes one of a set of intolerant individuals, whose fundamental principle of combination is un-Christian in the extreme. Working men are very apt to quote those lines of Burns, which picture the "poor o'er-laboured wight" begging of the aristocratic and, of course, tyrannical, lord

"To give him leave to toll,"
And see his lordly fellow-worm
The poor petition spurn,
Unmindful though a weeping wife
And helpless offspring mourn."

In the case of the Dublin carpenters it is not the "lordly worm" who is to blame, but a combination of toiling maggots, to vary the phrase of Burns, clubbed together, and bound by a pernicious pledge to prevent their fellow-creatures from following an honest calling, besides helping to chase industry from our shores. The well-known lines of Moore upon "meum and tuum" might here be imitated perhaps with some effect:—

"When Irish producers fight with each other,
Disputing for privilege to earn their bread,
Consumers, disgusted at such silly bother,
Have foreign mechanics to work in their stead."

Teetotallers may preach their favourite doctrine as the first essential of the daily toiler's reform, but the writer, who has had much experience, is an advocate for education as the premier requisite. To prove that all restrictions which, in any shape, hinder the artisan or labourer from pursuing his daily occupation are amply ruinous to his well-being, would be an important object gained. There were very many joined in such unions as the one mentioned, who would renounce their intolerant principles if their hollowness were made plain to them. Let working men be taught to respect the right of every individual to work with whom and for whom he may think proper. This will prevent selfish combination, show them the necessity of protecting the capitalist, who risks his money in developing the resources of the country, which will lead them to contribute intelligently to its success. Point out that a standard wage, secured by combination principally, nurses incompetency, obstructs honourable competition, clogs their brains and tempts them to remain contented mediocrities during the prime of life; compels them to become dependents upon their union for the general weekly dole of 2s. 6d. when old age overtakes them, and a pauper's funeral when death snatches them away. Let Irish working men be taught the maxim—*obrepunt vitia nobis nomine virtutum*—that intolerance is a leading vice, and that a nation who can conquer their own vices cannot be enslaved by any other people.—I am, sir, your obedient servant,
A JOURNEYMAN JOINER.

[We had intended to speak at some length in present issue on the matter that called forth the above letter, having previously been made acquainted with other particulars which place the conduct of those principally concerned in a very reprehensible light. Perhaps, by postponing our remarks, our next issue may contain some replies that may enable us to speak less harshly of conduct that we are at present inclined to strongly stigmatise. For the credit of the trade bodies of Dublin, we hope that such explanation will be afforded as will remove the suspicion now being entertained of them. The building and other trades of Dublin have always found this journal their friend when in the right—equally opposed to "lock-outs" and "strikes," and in favour of amicable relations between workmen and employers. We hesitate at present to recommend a course of action which may ultimately become necessary to advocate to meet the evils complained of in this city.—ED. I. B.]

AN ART GALLERY FOR RUSSIA.—The late Grand Duchess Maria was well known as a patroness of art, and the artists of St. Petersburg have determined to found an art gallery to be called by her name. It is to consist of three sections—one of painting, one of sculpture, and one mixed. A special saloon is to contain the paintings, sculptures, and other works of art which formed the collection of the illustrious deceased.

PREMISES, NORTH KING-STREET.

The premises now nearly completed for Mr. Egan, North King-street, contain large wholesale warehouses with sugar store at rear, and front and rear retail shops. The front is of Dalkey granite, as far as first floor windows; the shafts of polished Newry granite, cornice of Bath stone. The remaining portion is of red brick, with bands of black brick. The fixtures, counters, offices, &c., in shops and warehouses are of pitch pine, inlaid with walnut. Messrs. O'Neill and Byrne, of Dublin and Belfast, are the architects, and Mr. Jas. Comerford, of North King-street, the contractor.

THE NEW SCIENCE AND ART MUSEUM BUILDINGS.

ALTHOUGH no official announcement (says the *Farmers' Gazette*) has been made of the fact, we have observed a statement in one of our daily contemporaries, intimating that as the head landlord of the Royal Dublin Society's premises will not allow additional buildings to be erected on the Leinster Lawn—that is, the lawn between the society's house and Merrion-square,—it will be necessary to take up the ground occupied by the Agricultural Hall and the adjacent premises with buildings for the use of the new Science and Art Museum. This is precisely what we expected would take place, and the expression of which opinion brought down upon us the wrath of the assistant secretary of the society. It has also been stated that the Government is prepared to give a portion of the Phoenix Park for the erection of suitable buildings, &c., for agricultural shows. This seems probable, but we need not discuss the matter until there is better authority than we have at present for the statement.

At the last meeting of the Royal Dublin Society it was resolved to print and circulate amongst the members the report which had been made on Lord Sandon's letter. It appears, however, that although a formal resolution to that effect was moved, seconded, and passed unanimously, it has not been carried into effect; and when the members of the society meet at their adjourned meeting, to discuss the report and the various matters connected with it, they will know as little about it as they did at their first meeting. We hope that the reason why the resolution referred to has been ignored by those whose duty it was to have carried the wish of the meeting into effect will be thoroughly inquired into. This neglect has excited great dissatisfaction amongst the members.

CONCERT OF IRISH MUSIC.

On this evening Professor Glover will occupy the fine Concert Hall of the Exhibition Palace. He announces his "St. Patrick at Tara." He will be assisted on the occasion by first-rate artists, whose names are well-known to the public. Irish melodies, songs, and duets will form a very attractive 2nd part. We may promise the Professor a good attendance to-night.

TO CORRESPONDENTS.

BOARD OF WORKS, DUBLIN.—If correspondents who have written of matters in connection with this board and some of its officials will eliminate political or politico-religious topics, our pages are open to their statements, if a reform in the public interest is the object to be effected.

ST. STEPHEN'S GREEN.—The enclosed area is quite sufficient for the development of sundry horticultural and floricultural displays. By a reasonable outlay, a system of ornamental gardening could be carried out that would make the Green a delightful public park. It will need a combination of more trees and flowers and the introduction of a small lake or lakes, and the dead uniformity of its present level must be broken by having mounds or slight elevations here and there.

TAX LITERATURE OF GOTHIC ARCHITECTURE IN IRELAND.—A concluding paper or two, as a wind up for the present to the series of papers which have appeared, is held over.

S. & Co. (London).—The terms stated were conditional to a continuance, and not for occasional orders.

AN ARCHITECT'S PUPIL.—Consult the hon. secretaries of the Architectural Association, and if not satisfied with their

opinion, seek advice from one of the Divisional Magistrates by application in public court.

J. B. (Cork).—Thanks for the papers; we hope to make use of them hereafter. Our southern contemporary is not quite correct in stating that "The societies are cheerfully consenting to abjure their separate existence with a view of enabling this plan to be carried out." The scheme will bear full investigation.

THE HOSPITAL COMPETITION.—The subject is noticed in present issue.

R. A. (South Kensington).—Many thanks.
W. H. S.—T. C.—A Citizen—R. E. (Cork)—A Builder (Galway)—Scabo (Belfast)—M. D.—Architect (U.S.), Has been forwarded—**J. D.—R. H. A., &c.**

THE RHYME OF THE RINK.

People from the suburbs,
People from the squares,
Tender-looking sweethearts,
Gliding on in pairs;
People from the country,
Keeping near the brink;
Curious people you will see
Skating on the "Rink."
Timorous young maidens,
Fearing "We will fall";
Plucky elder brothers
Saying "Not at all!"
People falling backwards,
Quick as eye could wink—
Yes, it's rather dangerous
Skating on the "Rink!"
Gentlemen quite nervous,
Trying hard to smile;
Ladies wearing costumes
Of a wondrous style;
Stoutish-looking party,
Face as black as ink,
Thinks it's rather warm work
Skating on the "Rink."
Sentimental spinster
Says "It is like life."
Merchant, desperate jealous,
Looking at his wife,
Seeing rakish party
Slyly at her wink,
Says "It's quite improper
This skating on the 'Rink'!"
Swellish-looking bank clerk,
In new suit of grey,
Tries to make the most of
His half holiday!
Happy-looking schoolboy—
Cheeks quite brilliant pink—
Says "It's awful jolly
Skating on the 'Rink'!"
People from the country,
People from the squares,
People from the suburbs,
Flocking there in pairs—
People who should be elsewhere
(So, at least, I think),
Curious people may be seen
Skating on the "Rink!"

F. I.

STATUES.

The statue of William Stokes, M.D., F.R.S., will be unveiled tomorrow (Thursday) in the Hall of the College of Physicians, Kildare-street. The figure, by the late J. H. Foley, is of fine Carrara marble, and stands about 8 ft. in height.

The statue of the late Dr. Cooke has arrived at Belfast. No date has been fixed for the ceremony of its inauguration.

The statue of the late Lord Rosse will be unveiled at Parsonstown on the 21st inst. It is by the late J. H. Foley.

HOME AND FOREIGN NOTES.

St. Mary's Church, Kilkenny, is to be "restored." The estimated cost is £500. There will be no competition in this instance.

The death is announced of Mr. Alexander Colles, of the Kilkenny Marble Works, at an advanced age.

We have also to record the death of an "Old Inhabitant" of this city, Mr. John Littledale, the well-known auctioneer, of Ormond-quay. He died on Monday last, at the age of 84.

THE TIMBER TRADE.—Farnworth and Jardine's Wood Circular states that the arrivals from British North America during the past month have been five vessels, 2,184 tons, against eight vessels, 6,627 tons last year. Business has been very quiet, though the consumption of most descriptions of wood has been satisfactory; prices, with the exception of a few articles, have ruled low.—Messrs. Richard Martin and Co., Dublin, in their circular state that the consumption of deals has considerably increased, and prices have considerably advanced at St. John, N.B. The shippers of Quebec deals have also advanced their rates. Pine planks of good specifications are firmly held, and unprecedentedly high prices have been obtained for them. The Messrs. Martin have at present a good stock of deals, large, well assorted, and thoroughly seasoned. They are at present yarding a prime cargo of mahogany worthy of inspection, and which they shall offer by auction next month.

ATHY UNION.—An election for the office of surveyor to this Board took place on the 8th inst. There were eight candidates:—Mr. W. Fogarty, Mr. H. McConnell, Mr. J. Pennefather, Mr. M. Nicholson, Mr. P. Deane, Dublin; Mr. W. Hade, Carlow; Mr. R. H. T. Ross, and Mr. P. M'OWen, Athy. The three last-named having been proposed and seconded, Mr. R. H. T. Ross obtained the largest number of votes (9), and was declared duly elected to the office.

The Dublin South City Markets Bill came before the standing orders committee on Friday for dispensation with standing orders. The promoters having lodged deposit moneys on the 21st February, instead of on the 31st December. Lord Redesdale presided, and having perused the statement of the promoters in favour of the dispensing with standing orders, his lordship was pleased to allow the bill to proceed, and declared the standing orders dispensed with.

TUMBLE-DOWN HOUSES.—Numerous houses north and south of the city have lately commenced demolition on their own account, without asking the leave of the Borough Engineer. Houses are cracking up and about to tumble on all sides, having long since exceeded the natural span of their standing lives. One at this moment at the corner of Parliament-street is threatening for some time past to fall into the arms of its natural, or rather unnatural, custodian in the City Hall. The embrace, if it happen during a meeting day, will surely be a pleasant one, and will scarcely elicit a blessing from the City Fathers, who, if they escape, are likely to exhibit numbers of lively motions and emotions on the occasion.

MEDALS FOR DISTINGUISHED MERIT.—Early next May the Council of the Society of Arts will proceed to consider the award of the Albert Medal. This medal was struck to reward "distinguished merit in promoting arts, manufactures, or commerce." The council have invited members of the Society of Arts to send them, before the 16th of April, the names of men of such high distinction as they think would render them worthy the award of the Albert Medal.

THE CORK LUNATIC ASYLUM PLANS.—The dispute between the Board and Mr. Atkins, their late architect, is still unsettled. The law is being resorted to, but it is hoped that before the matter is pushed to its bitter end, an arbitration may bring the dispute to a friendly issue.

THE FREE OPENING OF ST. STEPHEN'S GREEN.—Sir Arthur Guinness's kindly efforts and enhanced offer towards effecting the opening of this large public square is likely to be crowned with the success it deserves. The Corporation, who have an interest in the Green, are willing, we believe, to vacate the rents which they at present receive from the Green to be given towards its future maintenance. A halfpenny rate is also proposed for that object, and in that event the Corporation, of course, would claim a control over the Green in future. If the Government will give an annual grant towards the maintenance of the Green as a public park there would, of course, exist little difficulty in the way.

EPPE'S COCOA.—GRATEFUL AND COMFORTING.—"By a thorough knowledge of the natural laws which govern the operations of digestion and nutrition, and by a careful application of the fine properties of well-selected cocoa, Mr. Eppe has provided our breakfast tables with a delicately flavoured beverage which may save us many heavy doctors' bills. It is by the judicious use of such articles of diet that a constitution may be gradually built up until strong enough to resist every tendency to disease. Hundreds of subtle maladies are floating around us ready to attack wherever there is a weak point. We may escape many a fatal shaft by keeping ourselves well fortified with pure blood and a properly nourished frame."—*Civil Service Gazette.*

NOTICE.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

Correspondents should send their names and addresses, not necessarily for publication.

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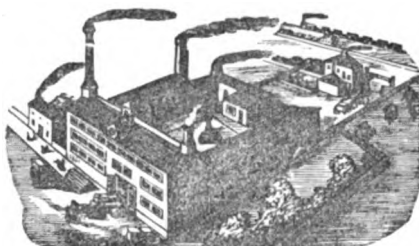
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JOURNAL OF ENGLISH AND FOREIGN LITERATURE, SCIENCE, THE FINE ARTS, MUSIC, AND THE DRAMA. CONTAINS:—Reviews of every important New Book, English and Foreign, and of every new English Novel—Reports of the Learned Societies—Authentic Accounts of Scientific Expeditions—Criticism on Art, Music, and the Drama—Foreign Correspondence on Subjects relating to Literature, Science, and Art—Biographical Notices of Distinguished Men—Original Poems and Papers—Weekly Gossip.

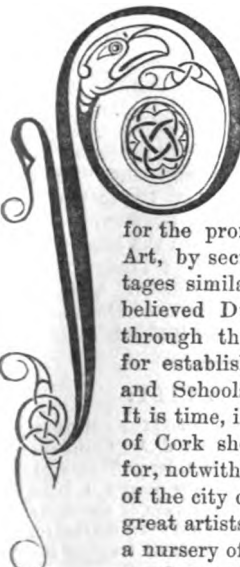
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The Irish Builder.

VOL. XVIII.—No. 391.

Science and Art Prospects in Cork:



PUBLIC opinion in Cork has to some extent within the last month been exhibiting a more lively spirit. Two meetings have been held for the promotion of Science and Art, by securing for Cork advantages similar to those which it is believed Dublin will soon possess through the Government scheme for establishing a Public Museum and Schools of Art and Science. It is time, indeed, that the people of Cork should bestir themselves, for, notwithstanding the reputation of the city of having given birth to great artists, and acting betimes as a nursery of Art, Cork at present can boast of little.

On each occasion of our visit to the southern capital during late years, though we witnessed improvements in a building and sanitary direction, we failed to observe any effort towards providing Cork with one or more of those local literary and scientific institutions which may be found in some Irish cities, and in nearly all English and Scotch towns of any importance. While in Cork, we were often pained in looking upon the dilapidated state of the building known as the Cork School of Art. Within the structure the Art School could not be more badly housed, and, without the building, the surroundings are the reverse of enticing in look, appearance, or approach. The Cork School has a collection of casts which long since would have proved valuable if utilised, but for years back they have been existing, stowed away as if they had been so much lumber.

It would scarcely be believed by strangers that at present Cork cannot boast of a single public or private museum available to the people. There are some small collections at the Cork Institution, but they are of little value; and, in the interest of literature as well as Art, there is no centre or association worthy of the name.

The wants of Cork at present are—a well-provided school of Art, a public library, a museum of Science and Art, and permanent exhibitions of objects of the fine and industrial arts. How are these wants to be supplied? A portion of the Cork people think and expect that the Government will come to their aid, while others believe that the resources of the city in itself are sufficient for the purpose. Voluntary contributions cannot be depended upon for the support of Art and scientific bodies. There must be a regular income; and, without Government help, it can only come through the striking of a rate. Several gifts of one hundred pounds or of fifties from gentlemen and merchants will, if contributed, no doubt be most useful for putting infant societies upon their feet, and giving them a start; but, if permanent or lasting work is

to be achieved in Cork, it must be through the rates and with the concurrence of the ratepayers.

The President of the Queen's College, who acted as the chairman of the late meeting in Cork, said that there were two ways in which the project might be started. Alluding to their place of meeting, he said:—

“Those buildings belonged to the proprietors of the Royal Cork Institution, as a corporate body, who (his impression was) got them from the Treasury on relieving it from the ground rent. The proprietors were almost entirely gentlemen in the city, and having connection with it. Were they prepared to hand over their right to that institution—to, in fact, give all they possessed to support the new one? If that were done they would have the nucleus, round which might be gathered the subscriptions of the citizens, and the penny in the pound to be levied by the Corporation; and in that way they would have the beginning of an institution worthy of Cork. If anything was to be got from Parliament he believed it was when the people of Cork would have done that much for themselves. He was perfectly satisfied that if they went to the House of Commons to-morrow for a grant, however willing Parliament might be to help them, they would first be asked—how much have you done for yourselves? That idea was, in fact, carried very far indeed. For six or seven years he had been secretary to the Royal Irish Academy, and during that time they got upwards of £2,500 from the Treasury, exclusive of the annual grants, because they always put their hands first into their own pockets. In that way the Academy had been enabled to purchase a collection of Irish coins which belonged to this city and ought to have remained in it—Mr. Sainthill's collection; and in the same way they had got the bell shrine of St. Patrick. If the proprietors of the Royal Cork Institution were prepared to hand over their possessions to such a new body of trustees or commissioners as might be appointed, they would then have the beginning of an institution in which they might have a proper school of art, where he hoped some permanent contributions would always be exhibited, with a museum, technological and otherwise, attached, an art museum, and the nucleus of a public library. All that could be done if it were backed up by the subscriptions of the citizens and the annual rate for its maintenance. If the Corporation were prepared to build a town hall—and they had been talking of it since he was a boy—they might devote a portion of it to the purposes of a school of art and picture and statutory gallery, and, if they liked, a public library. That was the second way in which the thing might be started.”

It appears that there would be some difficulty in the way of handing over the Royal Cork Institute building to any new body, on account of its original constitution; and, in our opinion, it would be better to go in entirely for a new building. The Science and Art Department at South Kensington contribute a certain amount towards a building fund, if the locality interested in connection provides the remaining portion; but the maximum grant that Cork could obtain would only amount to £500. The Science and Art Department of South Kensington started on a different footing originally than what it now maintains. Two divisions were intended—one for Science and one for Art; and aid in both cases was to be given to all the towns in the sister kingdoms. Money was first given, but after a while it was withdrawn step by step, until the present system came to be established and continued, of payment by results.

Looking on all the surroundings of the project in Cork, we are of opinion that its permanent success must depend solely upon the efforts of the people of Cork themselves. The difficulty will not be in founding a public museum and a School of Art and Science in Cork, but in supporting it, and maintaining it in vigour; and the enthusiasm of the hour must not be built upon, or taken as a criterion of the intentions of the many. No doubt, some few will continue to voluntarily subscribe towards the support of Science and Art

in Cork long after the new buildings are provided; but can an amount of voluntary support be calculated upon sufficient to keep the Institution in a flourishing condition? If a penny rate could be doubled in Cork by continued voluntary subscriptions, of course there would be nothing to fear, but we have our grave doubts upon the matter. We would prefer seeing a rate struck (if Cork could bear it) sufficient at first to meet ordinary expenses in support of the new Institution. If it was found afterwards that good voluntary or other help was forthcoming, it would be far pleasanter and easier to reduce a rate than to increase it.

Some of our Cork friends have got it into their heads that the Government scheme for Art and Science purposes in Dublin is all but accomplished. This is a mistake. As we write, the scheme stands still, as far as we are aware, in the same crude state as it first appeared in Lord Sandon's letter. Even suppose the scheme, or an altered one agreeable to the wishes of our Dublin bodies interested, was being carried out, the people of Cork have ample time to consider how best they can provide their own wants. We would advise, on the part of the committee, a careful consideration of the works and the responsibilities they are placing themselves under. To be enthusiastic is one thing—to be over-sanguine is another. Nothing should be taken as granted without a strict scrutiny, and a calculation of expenses, so that a miserable collapse will be rendered impossible, or a languishing institution improbable. Apart from this, we wish the project in Cork every success, and will be only too glad to chronicle its triumph.

THE MOOR GRANITE QUARRIES, NEWRY.

OUR contemporary, the *Newry Telegraph*, in a recent issue, notices the above quarries at some length, and the admirable work which has been produced from the granite got therein. It may be here stated that for many years these quarries, (which are the property of Messrs. Hugh Campbell and Son), have been extensively drawn upon, the superiority of the granite being highly appreciated. It presents a uniformity of texture and colouring; and it has this peculiarity—its colour, which is a rich grey, remains unchanged, the weather not having the slightest effect upon it. It may also be stated that even the largest stones show comparatively few flaws or spots. The great demand for this granite induced the Messrs. Campbell to decide upon the erection of steam-polishing machinery on an extensive scale, and which has been for the past two months in full working order.

Amongst the latest products of these works is a polished granite vase, prepared for the Philadelphia Centennial Exhibition. It stands on a base 1 ft. square, resting on four polished granite balls, 1½ in. in diameter, and stands in height about 18 in. Round the vase runs a band 1½ in. deep, on which are shamrocks standing out in relief. This work of art will, no doubt, attract many admirers. Messrs. Campbell and Son have also completed a monument at Rootle, Lancashire, to the memory of the late Earl of Derby. The monument is in the obelisk form, rising to a height of 20 ft. Some of the stones employed are of large dimensions, the shaft being 7 ft. 9 in. high, 8 ft. 6 in. square at the base, and weighing nearly six tons. It is polished on all sides, and is a very beautiful specimen of the work which can be executed at these quarries. The monument, which will be utilised as a drinking fountain, will be topped by a splendid lamp, surmounted by

a coronet. The shaft will bear a plate containing the following inscription:—

"To EDWARD GEOFFREY STANLEY,
Fourteenth Earl of Derby,
This fountain was erected by a few of the inhabitants of
Bootle, as a memorial of their respect and esteem."

The design for the structure was drawn by Mr. W. H. Clemmey, C.E.

The polishing machinery was supplied by an Aberdeen firm, and the engine and boiler were constructed at the Soho Foundry, Newry. The blocks of granite taken from these quarries are of immense size and of the best description. Several—upwards of 20 ft. long, ranging from 5 to 8 ft. in breadth, and from 2 ft. 6 in. to 4 ft. 6 in. in thickness—are at present shot out in the quarry ready for work. The Messrs. Campbell have their hands full of orders, and it is hoped their efforts to utilise and improve the resources of our country will be richly rewarded.

THE ARCHITECTURAL ASSOCIATION OF IRELAND.

On Thursday evening an ordinary general meeting of the above body was held at 212 Great Brunswick-street. Mr. J. H. Owen, M.A., read a paper on "Earth Closets." We regret to have to record that there was a very small attendance on the occasion.

BELFAST ARCHITECTURAL ASSOCIATION.

A MEETING of the above society was held on Monday evening last at the Museum, College-square, North. There was a large attendance of members. Mr. Conway Scott, B.E., occupied the chair. A paper, entitled "Some Notes on Construction," was read by Mr. L. Livingston Macassey, C.E. The lecturer, in the course of his remarks, illustrated, by diagrams on the black board, the various precautions necessary for the insuring of sound construction in foundations, walling, &c. The proper use and formation of concrete was described, and the recent important experiments of Mr. Cotton, of Dublin, with regard to concrete in the form of beams, &c., fully explained. The paper, which was of a thoroughly practical character, was listened to with great interest. On the motion of Mr. S. P. Close, seconded by Mr. Braddell, a cordial vote of thanks was passed to the lecturer.

ARCHITECTURAL ASSOCIATION (LONDON).

At the meeting of this association held on the 17th ult., Mr. John Quilter in the chair, Messrs. C. McLochlan and F. P. Huggins were elected members. Votes of thanks were given to Mr. G. G. Scott, jun., and to Mr. James Fowler for allowing the association to visit the churches of St. Agnes, Kennington, and St. Mary, Newington. Mr. R. T. Smith then read an interesting paper "On the Metropolitan Building Act," giving a thorough review of the principles and bearings of that act in relation to London buildings and the practice of architects.

On Saturday, the 25th ult., a visit was made by some members of the association to the Peabody Model Dwellings, Pimlico.

On Friday (yesterday) a paper was announced to be read at the ordinary meeting by Mr. H. W. Brewer "On Architecture in South Holland."

The members' *soirée* will take place on 21st inst.

THE QUEEN'S INSTITUTE.

A SPLENDID service of china, consisting of upwards of a hundred pieces, has just been completed in the pottery department of this Institute. It is for an Irish lady, resident in England. The gilding is of a rich and solid description. The cups, saucers, plates, and other pieces, are painted in a variety of de-

signs, the prevailing feature being the sham-rock, while each design is enriched with other plants, humming birds, butterflies, &c. The painting is upon a ground of pale salmon tint. A set of painted tiles has also been completed to be used in facing six pilasters in the interior of a restaurant in this city. Each pilaster is 6 ft. 4 in. in height by 14 in. wide. The topmost tiles for each pilaster are painted in arabesque, and the others with various designs of fruit, flowers, and game. These works have been executed by students of the Institute, under the able supervision of Mr. Herbert Cooper.

A GRAVE DEBATE.

"THE LIFFEY DISEASE."

The newspapers storm,
The ratepayers frown;
A judge makes a speech
In his big wig and gown;
And doctors look pleasant,
Expecting large fees
By this new epidemic—
"The Liffey Disease!"

The Irish are noted
For taking the lead;
In the service of Fame
We've done many a deed;
But this last act of ours
Almost takes away breath,
For now we have taken
The lead in grim Death!

Oh! sons of Eblana,
Why are ye content
While your money and lives
Are thus recklessly spent?
By good use of the former
You might, if you please,
Save the latter from danger
Of Death or Disease.

Our dear Corporation—
So active and good—
Takes all this in friendship
(As doubtless they should),
While poisonous vapors
Are borne on each breeze,
Creating this nuisance—
"The Liffey Disease!"

F. I.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

At the special meeting of the institute held during the last month, to consider the recommendations of the Council, re the award of the Royal Gold Medal, the Soane Medallion, and other prizes and medals of the institute, and also in reference to the medals and prizes of 1876-7, the following recommendations of the council were unanimously agreed to:—

That the royal gold medal be awarded, subject to her Majesty's gracious sanction, to M. Joseph Louis Duc, Knight Commander of the Legion of Honour, member of the Institute of France, honorary and corresponding member of the Royal Institute of British Architects, &c.

That the Soane medallion (with the sum of £50 added, under the usual conditions of Continental study) be awarded to the author of the drawings submitted under the motto "Loyal Espoir" (subject: Design for a Country House). The author's name was announced to be Mr. J. Conder.

That in the same competition a medal of merit be awarded to each of the authors of the drawings submitted respectfully under the motto "Εὐαριστος" and the device of a triangle. The author of the former was stated to be Mr. William Niven; that of the latter, Mr. J. O. Harris, Leicester.

That Sir William Tite's prize of £40* be awarded to the author of the drawings submitted under the device of a square and a cross within a circle (subject: Design for a Public Concert-room). Author, Mr. Alfred Reading, Handsworth, Birmingham.

That the Grissell medal be awarded to the author of the drawings submitted under the device of a star within a circle and the letters T.E.A.K. (subject: Design for a Hall and Staircase, showing their construction). Author, Mr. Geo. D. Stevenson.

That the Institute Silver Medal and £5 5s. be

* This is the first award of this prize, and owing to lapse of time in making arrangements, there is an accumulation of £10 over and above the normal value of the prize, which is £20, to which sum it will in future be confined.

awarded to the author of the measured drawings submitted under the motto "Try" (building illustrated, St. Alban's Abbey). Author, Mr. James Neale, St. Albans.

That in the same competition another Institute Silver Medal be awarded to the author of the measured drawings submitted under the motto "Waverley" (building illustrated, Dryburgh Abbey). Author, Mr. James Lindsay, of Glasgow.

That the Student's Prize in books be awarded to the author of the drawings submitted under the motto "For a Park" (subject: Design for a Park Lodge). Author, Mr. Henry Branch.

It was stated that no essays had been received in competition for the Essay Prize of 1875-6.

After the business of the special meeting concluded, the following new members were elected—as Fellow, Mr. Robert Walker; and as Associates, Messrs. G. H. Birch, R. Griggs, and J. W. James. Some papers intended to have been read had to be postponed until the 27th ult. At a meeting of the institute held on this latter date, Mr. Brassey, M.P., was to have read a paper "On the Rise and Fall of Wages in the Building Trade," but his parliamentary duties prevented. A paper by Mr. F. P. Cockerell, "Notices of Deceased Foreign Members," was read instead.

FIRES IN THE CITY.

At an early hour on Tuesday morning the extensive building yard and workshops of Mr. J. M. Cormack, situate at the rear of Talbot-street, were discovered to be on fire. In the sheds was stored a large quantity of prepared joinery in process of seasoning for works on hand, all of which has been destroyed. Owing to the well-directed efforts of Captain Ingram and the Fire Brigade, the devouring element was prevented from spreading to the adjoining dwelling-houses in Talbot-street (also the property of Mr. Cormack), and to several houses in the vicinity of the burning premises. The damage is roughly estimated at £9,000; and we are happy to learn that this is covered by insurances in the Imperial, Patriotic, and Staffordshire companies, to the extent of about £7,000. We hope Mr. Cormack will shortly be in a position to resume business.

At the printing-office of Messrs. McGlashan and Gill, Upper Sackville-street, some damage was caused by the over-heating of a flue.

BOOKS RECEIVED.

Molesworth's *Pocket-Book of Engineers' Formulae*, 18th edition. London: E. and F. N. Spon, 1876.

Lockwood and Co's *Builders' and Contractors' Price Book* for 1876. London: Crosby Lockwood, and Co. The present edition of this work (says the preface) with the prices revised and corrections made for 1876, is placed before the public in the confident hope that its high character will remain unimpaired.

Sixteenth Annual Report of the Amalgamated Carpenters and Joiners for 1875. Manchester: Co-operative Printing Society (Limited), 1876.

Skyring's *Builders' Price Book* for 1876. London: Simkin, Marshall, and Co. This work appears in an improved form this year. It is well and legibly printed.

PRESS MESSAGES.—The recent announcement made by the Post-office department—that it was intended to discontinue on to-day (April 1st), the system of dividing messages, and consequently increasing the tariff for news messages, both on the part of newspapers, news-rooms, &c.,—has led to great dissatisfaction, and no wonder. The postal department has since modified its intended action, but as we write we are not aware of its full extent. The effect of the increase of the tariff would be fatal to the existence of many of the provincial newspapers, would greatly injure the weekly ones, and render it impossible for many news-rooms to avail themselves of constant telegraphic communication. Early in the late month an influential deputation of members of Parliament and newspaper proprietors—English, Irish, and Scotch—waited upon the Postmaster-General, with a view of having the system in practice for so long continued. We hope the committee appointed to confer with the postal authorities have, by this date, succeeded in obtaining a withdrawal of the injurious impost.

PUBLIC INSTRUCTION.

For some weeks past in Dublin series of lectures on a variety of useful subjects in different fields of the arts and sciences have been proceeding. A course of six Saturday evening scientific lectures was commenced by the Rev. Dr. Haughton on March 4th in Trinity College. These lectures are excellent, as far as we have read them. Treating of the past history and future prospects of the globe, the formations of continents, oceans, volcanoes, mountains, and other cognate matters, Dr. Haughton managed to convey to his appreciative audiences much pleasing as well as instructive information. We are glad to say that the lectures are well attended.

In the Theatre of the Royal College of Science, Professor Davy has been delivering lectures on the elements of "Our Food"—a subject susceptible of popular treatment, and concerning which little knowledge has been acquired by the working classes in this country.

On Saturday evening, the 11th, a series of lectures on music was commenced by Sir Robert Stewart in the Examination Hall, Trinity College. The lecturer opened his subject, treating of "National Music in Relation to Modern Musical Art;" and in the first and subsequent lectures illustrations of the rude songs and musical instruments of savage nations were given. The lectures were well attended, and the subject ably handled.

A course of lectures on Sanitary Science, under the auspices of the Dublin Sanitary Association—some of which we have already reported—have been proceeding in the Rathmines Town Hall. Those delivered up to the time of our writing were by Dr. Grimshaw, Dr. Barton, and Dr. Emerson Reynolds. We have no doubt but these sanitary lectures will do a large amount of good; and we would like to see the subject treated continually kept before the public until a long-desired reform was effected in this city.

Besides what we have mentioned, other occasional lectures have been delivered in the city during the last month on popular subjects. All, we think, may be taken as an evidence that something practical has been done in Dublin in the way of public instruction. Much, however, remains to be accomplished before the masses are reached. What is wanted in Dublin is not merely "genteel" audiences coming to hear popular and pleasing lecturers, but audiences who, though somewhat rough in exterior, may, withal, be respectable. The greatest happiness will exist, or ought to exist, in the greatest number being brought together to hear lectures on science and art, or other matters that vitally concern them. In the theatre the rich and the humble are found; the only difference is that one pays a higher price for his seat than another. In our public lecture halls we would like to see poor and rich crowding in to hear many subjects. It is difficult to say which class is still the more ignorant. Of music, the rich, as a class, are the better informed, perhaps; but on art and scientific matters there is still very little solid information among the higher classes. A knowledge of sanitary science at this moment is as badly wanted among the rich of our land as the working poor.

A BOARD OF GUARDIANS AND THEIR CONTRACTOR.

A MAN named James Brennan was summoned to Kilcullen Petty Sessions, at the suit of the Board of Guardians of the Athy Union, for fraudulently obtaining the sum of £39 13s. 3d. by representing that he had built 260 perches of a wall round Davidstown graveyard, whereas, in reality, he had only built 176½ perches.

Mr. E. Lord, S.C.S., stated that in the month of November, 1874, the board sent out advertisements for tenders to build a wall round this graveyard. The defendant's tender at 9s. 6d. per perch was accepted, and a specification drawn up, in accordance with which he undertook to build a wall of good solid masonry 5 ft. over the surface, with a foundation 2 ft. deep and 2 ft. wide. In the building of this wall a most ingenious species of deception was resorted to by the contractor. Instead of sinking the foundation the entire length of the wall, as he was bound to do in accordance with the terms of his specification, he caused pits or "derks" to be sunk, three perches apart, into which the required amount of masonry was built, the intervening spaces being built from the surface of the soil. The wall being finished in this manner, the surveyor to the board was called on to measure it where these pits or "derks" were opened for him, and a representation made that the foundation was the same the entire length. On that representation the surveyor gave a certificate and a measurement, to the effect that the wall was built in a satisfactory manner, and contained 260 perches of masonry, for which the defendant was paid by the guardians, according to contract, 9s. 6d. per perch—amounting to £123 10s. Some time after, the ratepayers' suspicions being aroused by cracks appearing in several parts of the wall, they sent for the surveyor, and had the ground opened in 23 places, in not one of which was there a particle of foundation. A re-measurement then took place, from which it appeared that instead of 260 perches there were only 176½ perches, or 83½ perches short of the original measurement, making a money difference of £39 13s. 3d. He respectfully asked the magistrates to return the case for trial to the Naas quarter sessions.

Chairman (to defendant)—Have you any questions to ask, or any defence to make?

Defendant—I have no questions to ask, only I consider it a most extraordinary thing, now ten months after I have been paid for the work, and the surveyor testifying to its being properly done, to have all this about it.

Chairman—It will not extenuate you in the slightest; if other parties neglected their duties, they may have to answer for their neglect elsewhere. We must return you for trial.

The depositions taken at Ballylinan having been put in as evidence, the defendant was returned for trial to Naas quarter sessions, bail being accepted in two sureties in £20 each and himself in £40.

THE UNVEILING OF THE STATUE OF LORD ROSSE.

As announced in our last issue, the unveiling of this statue took place in Parsonstown on the 21st ult. It is one of the last works upon which our lamented sculptor Mr. Foley was engaged. Cast in bronze, it is above 8 ft. high from plinth, supported by a limestone pedestal of about the same height. The site is a slightly elevated one in John's Mall, facing one of the leading streets of the town. The figure is draped in the robes of the Chancellor of the University, a post which Lord Rosse held for some years. One hand rests upon a globe, while the other assumes a graceful *posé*. As a work of art the work is satisfactory, and as a representation of the late nobleman it is accounted a faithful rendering. The work is the result of a public subscription instituted eight years ago, and contributed to by rich and humble to the amount of several thousand pounds, irrespective of creed or class. It can therefore be looked upon as a tribute to the personal and public worth of Lord Rosse, who not only helped his country in various ways, but contributed powerfully to the advancement of science by his astronomical and other studies. The unveiling of the statue, we may add, was witnessed by some hundreds of people, and among them the repre-

sentatives of the leading families of the King's County. The Provost of Trinity College (Rev. Dr. Lloyd), as one of the speakers on the occasion, delivered an address which it will not be amiss to reproduce here. He said:—

"They were all assembled to do honour to one of the noblest of Ireland's sons, and one whom the world of science had long reckoned among its chiefs, and whom Nature had endowed with the highest moral qualities. It was not for him, however, to come there for a few hours to attempt to extol the character of such a man, especially standing, as they all were, within sight of the great work with which the name of Lord Rosse would for ever remain connected, and which would always be a testimony to the wondrous resolution and perseverance which had overcome in succession the almost marvellous difficulties which had lain between him and success. These difficulties had already been recorded in the writings which he had given forth from time to time in connection with the Royal Society of London, and he (the Rev. Dr. Lloyd) did not now allude to those writings so much in their scientific character as in the evidence which they afforded of the high-toned moral qualities of the writer. Determined as the writer was to make progress in optical and astronomical science, he yet always spoke with diffidence of his efforts, and referred with modesty to his own previous labours, and with constant admiration to those of his worthy predecessor, Sir William Herschel. The next point was the almost marvellous candour with which Lord Rosse recorded the various attempts he had made before arriving at his final success. Then the indomitable energy with which he pursued his object under difficulties which would have utterly discouraged another. A speculum, everyone knew, wanted to be often polished, and very often to be ground as well. After Lord Rosse had completed one speculum it unfortunately cracked after being 24 hours in hands of polisher. At last it was successfully finished and formed a second speculum; but then it became necessary that provision should be made for continued observations while the processes of polishing and grinding were going on. Accordingly, a third speculum was cast and cast successfully, yet it likewise cracked while going through the annealing furnace. After some delay a fourth was undertaken, but this one broke in the casting. At last, however, a fifth was finished, and completed to satisfaction. The difficulties of these four unsuccessful attempts would be best understood when it was remembered what an immense amount of time, watchfulness, and trouble was needed at every step, and that the preparation of each gigantic speculum required a period of six months' continual anxiety. But when they came to consider the purposes to which this beautiful instrument, when finished, was applied, they would find that his labour and extraordinary energy was not ill-requited. Lord Rosse's telescope gave increased power of investigation and inquiry into those wondrous and beautiful nebulae of the heavens which were interesting on two accounts—first, because we knew little of them before; secondly, because we could not know anything more until the optical powers of the instruments employed were greatly improved. Accordingly the six-foot reflector swept the heavens for the observation of those marvellous bodies. They were recorded and figured, and new forms were discovered and classified; and amongst them he might mention a remarkable spiral form which excited intense interest, and appeared to indicate mechanical laws of which we have no conception. Accurate measures were taken, in order that future observations might, by comparison, detect future movements; and one of the first results of the observations of the great Parsonstown reflector was that many of those remarkable bodies were found not to be nebulae—not clouds, in the true sense of the word—but clusters of separate stars. The first conclusion drawn from this examination was that, if the optical powers of our instruments could be still further advanced, it would be found that this law was universal. Sir John Herschel had drawn these conclusions from observations at the Cape, but Lord Rosse said it would be very unsafe to draw the obvious inference that all nebulaeity was a collection of stars too remote to be separated by the utmost power of our instruments. And this conclusion had been verified by the observations of the spectroscopic which had been since made. It was a happy result for science, too, that his great instrument had now come into the possession of one who was also able to use it, and that it had already revealed, in his hands, the attributes of the solar heat which is reflected by the moon. It had revealed the amount and value of that heat, which had been long sought for by previous observers, and had thus placed the fourth Earl of Rosse high amongst the discoverers of science."

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

THE science of mathematics has achieved great triumphs for man in all ages, when properly utilised. Without it all art would amount to a rule of thumb, a mere guess-work and groping in the dark. Plato and Aristotle are enthusiastic in their praise of mathematics. The former had as an inscription over the portal of his school—"Let no man enter who is ignorant of geometry." The title of mathematician was considered honorable among the ancients until the school of astrologers and necromancers degraded the science by their impostures. Astrology and alchemy, though they held sway for long ages, did not exist in vain. As education advanced the spirit of inquiry increased, and ignorance and superstition were knocked on the head. Astronomy proper took the place of divination, and chemistry stamped alchemy out of existence. No, not altogether, for there are fools upon the world yet, not a few, who pin their faith to the doctrine of astrologers, and erring souls who are still groping after the philosopher's stone and the perpetual motion. In bygone days we have had divines (and, indeed, we have them still) who applied mathematics to the solving of religious mysteries. One John Craig, in his "Mathematical Principles of Christian Theology," printed in London in 1699, calculates algebraically that the Christian religion will lose its character of credibility after 1454 years, when Christ will come to judge the living and the dead, lest the faith should not be destroyed upon the earth. We wonder has our living prophetic Dr. Cumming ever read this book. He has been foretelling strange things for many years, but the world has not yet collapsed, nor has Antichrist made his appearance in the flesh. A writer in a Dublin magazine at the close of the last century, in commenting upon Craig's prophetic calculations, said that one part of his conjecture had been verified, for that on the revival of learning, which succeeded the capture of Constantinople by the Turks, 1451, the truth of christianity began to be impeached, and soon after appeared that celebrated atheistical work, *De Tribus Inpossibilibus*. The writer added that from that time the foundations of religion had been sapping until by the events attending the first French Revolution they were completely overthrown. The cabalistic Jews were wont to find all religion in the mystery of numbers, and curious have been the calculations thereon. This calculating craze on matters of religion and scripture history and prophecy has never died out, and in every century one or more remarkable characters crop up, regular calculating machines in their way. In 1724, a German named Henry Bernard Koster undertook to demonstrate arithmetically and geometrically the mysteries of the Trinity, Incarnation, and Apocalypse. Another genius in like manner calculated the number of sins each man committed in the course of a year. He began by comparing what our Saviour orders of forgiving seventy times seven faults in a day with other places, and on the supposition a proportion to exist of faults committed against God and man, it is manifest, says this calculator, that we sin more than 490,000,000 times a-day, and more than 178,850,000,000 times a-year. This astounding and alarming calculation is enough to take one's breath away, and such sums should only be worked by Babbage's calculating machine. Some modern English writers—among whom were Hutcheson, Wollaston, and others—applied their mathematical knowledge to demonstrate religion and morality; for proof the reader is referred to Berkeley's "Analyst." The title of mathematician is an honourable one, and the science a powerful lever in the hands of man. Practical mathematics has built up astronomy, and explained it; created architecture and engineering, and lifted groping, ignorant man from a region of eclipse into a region of light. It is not to be wondered at that the

world has produced arithmetical quacks, for what profession has been free of them?

During the era of the Irish Parliament the rapid increase of public and private buildings in this city gave rise to the query—"Is Dublin too large a capital for Ireland?" Men might smile at such a query, if put now. Before 1800, some Dublin folk were, however, getting alarmed at the rapid spread of the city, and feared it would soon be an overgrown one. Their fears have been long since allayed. Our metropolis, compared with the London one, is but the space of a week compared with that of a year in one sense. Now, although we would like to see Dublin yearly improving and enlarging, we doubt if there be an unmixed good in a very large capital like that of London. If any metropolis in the history of the world could be counted overgrown, it is London. It is certainly unwieldy in its dimensions, notwithstanding its wealth and the organisation of its governing bodies. It would take many millions of pounds to partially improve London; but it is doubtful if that city would not need to be rebuilt before it could be accounted a beautiful metropolis commensurate with its importance. In view of the future of growing cities, that may hereafter become great in extent as well as in wealth, it would be advisable that their authorities would regulate the plan of their extension so that sanitary conditions should be maintained and architectural beauty secured. The adding of district after district, town after town, and, we might say, county after county, as in the case of the London metropolis, is not an advisable proceeding, if it could be avoided. Should it, however, be unavoidable, very large open spaces should be left unbuilt upon to cut off the continuity, so that the city should not be an unbroken line of houses from its centre to several miles either way, over lands that were once farm and meadow. These open spaces should be as large as possible, so as to be utilised for public parks for the use of the city on one side, and the outlying townships on the other.

In the case of Dublin, the Phoenix Park may one day occupy a somewhat central place in the Irish metropolis, if buildings should go on extending on either side and beyond it in a southerly direction. Let us suppose that an open space or park like the Phoenix was to extend several miles across the centre of a metropolis, dividing it into two equal parts, such a division would add immensely to the health of the whole population; nor would it possess drawbacks, for in course of time each district would be equal to the supply of its own wants. To facilitate traffic and commerce, imports and exports, the open space or park could be ramified with one or more main roads, and a railway line might pass round its boundary or through a tunnel below. Very large cities tend much to centralisation and monopolies, and a section of the community are benefited instead of the whole. The greatest happiness for the greatest number is better secured by the division of a country into moderately-sized cities and towns, instead of by their absorption into one capacious maw that becomes difficult to feed or govern, make healthy or safe when threatened with destruction from elements within or without.

It would be well worth ascertaining how many of our charitable trusts in Dublin are standing at the present moment; how many of these have improved, and to what extent; and how many of them have been diverted from their original purpose. Many old citizens and good dames of Dublin have left houses and landed property to asylums and schools in the last century. Some of this landed property, if properly administered, must have become valuable by this time; but there is only too much reason to fear that the trustees in several cases have not been faithful to their trusts. In cases where ready money was given, it is needless to inquire at this date how it was disposed of. There are now but few good ladies in Dublin

who, at their decease, leave such handsome charitable legacies for charitable purposes as Miss Anne Keon, of St. Stephen's-green. This lady, who died in Dublin towards the close of the last century, bequeathed upwards of £7,000, to be divided as follows:—The Incorporated Societies of Protestant Charter Schools (long since extinct), £1,000; Mercer's Hospital, ditto; Hospital for Incurables, ditto; St. Patrick's Hospital, ditto; the Infirmary, Jervis-street, ditto; Madame Steevens' Hospital, ditto; St. Bridget's Parish, £200; St. Werburgh's, ditto, £100; St. Mark's, ditto; St. Michael's, ditto; St. Nicholas Without, ditto; St. Nicholas Within, ditto; St. John's, ditto; St. Catherine's, ditto; St. Peter's, ditto; St. Luke's, £50; St. James', £22 15s. Thousands of wealthy people die yearly who never remember the poor of any parish, and some are so benevolent, and dying as if they never had any kith or kin to think of, leave all their worldly wealth to the Crown. Riches to some folk is a positive curse.

It is good, to be sure, for some folk who cannot enjoy their wealth any longer, to give a portion to the poor at their death; but it is a more Christian and pleasing sight to see the living rich helping the living poor. In the cause of charity, let the living help the living, and not wait until the hand of death presses them down. Money is hoarded up for a lifetime, after doing the owner little good—often, indeed, positive harm. A tithe of his wealth is more than sufficient for his wants or ordinary luxuries, still the interest is added to the principal, and the voice of charity is unheard.

Worldly ambition only dies with the last breath. Perhaps the millionaire has founded a house, and the Herald's College have manufactured his crest, and he dies, not unknown to title, if to honest fame. Rich friends stand above his grave, and a generation passes away, and his name is unremembered among the people. Had his wealth, or a portion of it, gone at his death to found an hospital, or an asylum for the poor and afflicted, his name would have continued fresh in the memory of the people for generations, and mayhap for all time.

NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.*

WE have stated that Rich offered Wilkes four pounds a-week, in 1698, to return to London; but three or four years before this time the Covent Garden manager, during Wilkes's first visit to London, paid the young actor only fifteen shillings per week, from which half-a-crown was deducted for instruction in dancing. On this low salary, during his first visit to London, Wilkes married a Miss Knapton, a daughter of the Town Clerk of Southampton. Struggling hard for fame on this low salary, and having a family increasing, he was advised by the ever-friendly Betterton to return to Ashbury, the Dublin manager.

On this his first return to his native city, on Betterton's recommendation he was engaged by Ashbury at £50 a-year, and a clear benefit. He soon became the pet of the Dublin public, and in three or four years, or in 1698, as we have mentioned, Rich, of Covent Garden, was begging of him to return, and offering him the large salary, as it was then considered, of four pounds weekly.

On his return to London a second time, Wilkes's rise was very rapid, and he soon became a great favourite with the London people. Dr. Doran, in his "Her Majesty's Servants," thus estimates the merits of Wilkes:—"Taking the extant score of judgments recorded of him, I find that Wilkes was careful, judicious, painstaking in the smallest trifles; in comedy always brilliant, in tragedy always graceful and natural. For zeal, Cibber had not known his equal for half a century; careful himself, he allowed no one else to be negligent; so careful that he would recite a thousand lines without

* See ante.

missing a single word. The result of all his labour was seen in an ease, and grace, and gaiety which seemed perfectly spontaneous. His taste in dress was irreproachable; grave in his attire in the street, on the stage he was the glass of fashion. On the stage, even in his last season, after a career of forty years, he never lost his buoyancy or his young graces. From first to last he was perfection in his peculiar line."

This is a high estimate of our Irish actor's character, but it is justified by what has been recorded of Wilkes by some of his contemporaries. Wilkes was many-handed and many-sided, and little connected with routine or other work came amiss to him. Wilkes's personation of the principal characters of some of Farquhar's plays have been accounted his highest successes, such as "Sir Harry Wildair," "Mirabel," "Captain Plume," and "Archer." Wilkes was the original representative of many of the characters he undertook, and he played well in some of Cibber's comedies, and, 'tis said, almost excelled in Mrs. Centlivre's "Wonder," his reputation in this piece coming up to that gained by his "Sir Harry Wildair."

Wilkes, while in London, during his later years resided at a villa at Isleworth. His biographer speaks of his constant generosity and charity. As we may have to speak of our actor more than once hereafter, we will only now add that he died after a short illness and many doctors in 1782, leaving his share in the Drury-lane patent and other property he possessed to his wife. There are few actors, English or Irish, of the eighteenth century better entitled to respect than Robert Wilkes.

Hitchcock mentions an event connected with the Dublin theatre in 1701 which, he says, strongly marks the superstitious cast of the public mind. On St. Stephen's Day in the December of that year the galleries of the Dublin theatre were greatly overcrowded, and gave way. Several persons were severely injured, but no lives were lost. It was the first night of the performance of Shadwell's "Libertine"—"a play extremely loose and improper for representation; it gave occasion to the people to declare that the accident was a judgment on the spectators for going to see it. Nay, so far did their extravagance carry them, that it was even asserted by some that the candles burnt blue and went out, and that two or three times a dancer extraordinary, whom nobody knew, was seen; that he had a cloven foot, &c., with many other ridiculous stories. This gentleman I suppose it was who made free with the galleries, and was the author of the whole disturbance." The circumstance of the accident, however, led to the withdrawal of the play, which was not performed again for twenty years. For the credit of human respect and common decency, it would have been better that the play had never been written, printed, or acted. It is unlikely now that it shall ever be revived, for, though many indelicate plays are permitted, Shadwell's "Libertine" is too atrocious to be tolerated for an instant, save in some "Hell" unknown and well guarded from police surveillance.

To Joseph Ashbury Dublin is much indebted for the elevation of the Irish Stage, for from the last years of the seventeenth century till nearly the second decade of the eighteenth his efforts were unceasing to please the Irish public by good management. Ashbury, during his thirty years' management of the Dublin theatre, raised the Irish Stage to a respectable position, and during that time he may be said to have been one of its principal ornaments. He died in 1720, at the advanced age of 82, with his faculties unimpaired. Hitchcock and others tell us that he (Ashbury) always maintained an excellent character, and in his time was esteemed not only the best actor, but the best teacher in the three kingdoms. He instructed the Princess Anne, afterwards queen, in the part of Semandra in "Mithridates" when that piece was played at Whitehall, Ashbury on that occasion being prompter and conductor of the whole business.

In private as well as in public life, Ashbury was esteemed and respected by numerous friends, and was followed to the grave by many of them, besides an affectionate wife. Chetwood, who knew him and saw him in his old age, thus describes him:—"His person was of an advantageous height, well proportioned and manly; and, notwithstanding his great age, erect—a countenance that demanded a reverential awe; a full-meaning eye, piercing, though not in its full lustre; and yet I have seen him read letters and printed books without any assistance from art; a sweet-sounding, manly voice, without any symptoms of age in his speech."

Joseph Ashbury witnessed many changes in Ireland during his theatrical career, having been Master of the Revels under five monarchs—Charles II., James II., King William III., Queen Anne, and George I.

Ashbury was succeeded in the management of Smock-alley by his son-in-law, Thomas Elrington, a young man of considerable ability, and possessing no small knowledge of the Irish Stage. He also succeeded his father-in-law as Deputy Master of the Revels and Steward to the Inns of Court then on Inns-quay. Still more favours were showered upon him to mark the appreciation in which he was held. He obtained an appointment in the Quit Rent Office, and by the gift of Lord Mountjoy, his friend, he was made gunner to the train of artillery; and, at the death of that nobleman, he had permission to dispose of it.

Thomas Elrington, like his lamented father-in-law, did his best to further improve the Dublin Stage, and succeeded fairly. Under his management, several of the first actors of the day visited Dublin. Henry Giffard, who came to Dublin in 1724 from Lincoln's Inns Theatre, stayed in the city until 1730, when he returned to London, and commenced as manager of Goodman's Fields Theatre, which position he filled for several years. Among other actors who visited and played in Dublin at this period, and remained for some years afterwards as constant residents, were Thomas Griffith, John Evans, Mr. Vanderbank, Mr. Husband, &c. The former was a gentleman of Welsh descent, a good actor in comedy, and a man of genius and unblemished character to boot.

Under the management of Thomas Elrington, most of the new pieces of merit brought out on the London Stage were reproduced in Dublin. The following may be mentioned: Mrs. Centlivre's "Bold Stroke for a Wife;" Hughes' "Siege of Damascus;" Cibber's "Refusal," and "Provoked Husband;" Dr. Young's "Busiris," and "Revenge;" Steele's "Conscious Lovers;" Gay's "Beggars' Opera;" and "Lillo's "George Barnwell." The last two pieces met with great success on their introduction on the Dublin Stage, and for years afterwards were again and again reproduced.

It may not be amiss here to give some illustrations of the effect with which the "Beggars' Opera" of Gay was received in London and Dublin on its first appearance. Different views have been held of the play, both by actors and authors. Of the first season of the "Beggars' Opera" in Lincoln's Inn Fields, 1727-8, Dr. Doran writes:—"The 'Beggars' Opera' season in Lincoln's Inn Fields was the most profitable ever known there. Swift's idea of a Newgate Pastoral was adopted by Gay, who, smarting under disappointment of preferment at Court, and angry at the offer to make him a gentleman usher to the youngest of the Royal children, indulged his satirical humour against ministers and placemen by writing a Newgate Comedy, at which Swift and Pope shook their heads; and old Congreve, for one of whose three sinecures Gay would have given his ears, was sorely perplexed as to whether it would bring triumph or calamity to the author. The songs were added, but Cibber, as doubtful as Congreve, declared what Rich eagerly accepted, and the success of which was first discovered by the Duke of Argyle from his box on the stage, who looked at the house, and saw it in the eyes of them. Walker, who had been

playing tragic parts, and very recently Macbeth, was chosen for Macheath; and Quin, declining the Highwayman, Lavinia Fenton was the Polly Peachem, by Hipposley; and Spiller made a distinctive character of "Mat o' the Mint." Sixty-two nights in this season the "Beggars' Opera" drew crowded houses. Highwaymen grew fashionable, and ladies not only carried fans adorned with subjects from the opera, but sang the lighter and hummed the coarser songs. Sir Robert Walpole, who was present on the first night, finding the eyes of the audience turned on him as Locket was singing his song touching courtiers and bribers, was first to blunt the point of the satire by calling out *encore*. Swift says *two* great ministers were in the box together, and all the world staring at them. At this time it was said that the quarrel of Peachem and Locket was an imitation of that of Brutus and Cassius, but the public discerned therein Walpole and his great adversary, Townsend."

The fame of the "Beggars' Opera" was not long in reaching this city, and not much time was lost before it was introduced to the Dublin public. Making allowance for the position of both cities, nearly equal success is said to have attended the production of Gay's comedy in Dublin. On December 28, 1728, it was advertised for the fortieth time for the benefit of Mr. Vanderbank, a favourite comedian playing in Dublin at the time. Hitchcock's opinion of the "Beggars' Opera" as a play is worth quoting here. Written towards the close of the last century in Dublin, it, no doubt, may be taken as the reflex of Dublin opinion at the time; but opinions formed and held in one generation are influenced by surrounding circumstances, and, in the face of new events, are often dispelled. The prevailing taste in dramatic art, or art of another kind in this generation, will not be that of the next. Fashion is exacting, and what we think, from our own standpoint, is unchangeable, is certain to change. Hitchcock writes:—

"The manager of Drury-lane, to whom it was first offered [the "Beggars' Opera"], peremptorily rejected it. Were it not authenticated beyond contradiction, we should scarce credit that such judges as Wilkes, Booth, and Cibber must be of dramatic writing should be so far deceived as to hesitate a moment in their opinion of such a piece. It was with great difficulty that Mr. Rich, the manager of Lincoln's Inn Theatre, could be prevailed on to let it have a trial; and, after the first rehearsal, he gave it up as a piece which, to a certain extent, would be condemned. This general opposition to a work of such acknowledged excellence, cannot fail at first to raise our surprise; but a little reflection may, perhaps, enable us, in some degree, to account for this seeming contradiction. The 'Beggars' Opera' was in a style of composition which had [not] hitherto been tried, and concerning which the public opinion was, therefore, more difficult to ascertain. It derived a considerable part of its force from, and depended in a great measure for its success on, a combination of circumstances peculiar to that time. That exotic species of entertainment called 'Italian Operas' had for several years been rising into fashion, and at that time entirely engrossed the attention of the higher and more fashionable ranks of people. The seduction of foreign music, the novelty of those unnatural warblers, then imparted the charms of dancing, with the glare of decorations, had bewitched the fancy and diverted the tide of encouragement and applause from the more rational though less gaudy representations of the English Theatre. This corruption of public taste and perversion of judgment, it was Mr. Gay's intention, by humorously satirising, to correct. The same loftiness of style, and unnecessary flow of forced similes, which, from an Italian hero, gave such delight, when put into the mouths of sharpers and highwaymen, could not fail to produce an effect as ludicrous as the former had been grand. But, though the design of the piece was excellent, and the execution masterly, notwithstanding it was in every

respect *nouvelle*, yet were the managers justified in their unwillingness to hazard a production, the boldness of which, though in case fortune was favourable, it might heighten its success, would, if matters took an adverse turn, but render its fall more severe."

Hitchcock confesses, however, that the managers were right in their judgment of the town; for, on the first night of the production of the "Beggars' Opera," the reception, for a considerable time, was doubtful. The first act passed over in silent attention—not a hand moved, not a shout was raised, the novelty of causing a great surprise. As the second act proceeded, the audience began to realise the satire of the play, and mark their pleasure during the last act, "to the great joy of the anxious author and disheartened performers," the piece was received with universal applause.

Walker, the original Macheath, though credited with being a good actor, died several years afterwards neglected, partly through his own fault, being addicted to intemperance. Miss Fenton, the original "Polly," was carried away from the theatrical circles by a noble lord, and became the Duchess of Bolton.

The "Beggars' Opera" was acted in Dublin some time previous to its first introduction at Smock-alley Theatre by the Lilliputian Company of the celebrated Madame Violante, but of her and her theatrical booth, play-house and juvenile performers, some of whom afterwards became distinguished, and notably among the list Peg Woffington, we will tell hereafter.

HOLYWOOD TOWN HALL.

THIS building (of which we give an illustration with present issue) was erected a short time ago in Holywood, a watering-place about five miles from Belfast. The ground floor contains public library and news-room, town commissioners' room, cloak-room, and caretaker's apartments, &c. Two wide staircases lead to large hall over, having gallery at one end and orchestra at the other, with retiring-rooms off same. The fittings of main hall are of pitch pine stained and varnished. The walls are faced with red and white bricks, having cement dressings. It is intended hereafter to raise the tower, to suit a public clock, as shown in the view. The works were executed in a satisfactory manner by the contractor, Mr. William Nimick, of Holywood, from the plans and under the superintendence of the architect, Mr. William Batt, jun., of Belfast, the outlay being over £2,000.

RE CARLISLE BRIDGE AND THE NEW BRIDGE.

THIS bill, promoted by the Dublin Port and Docks Board, has passed through the committee of the House of Lords. The opposition of the Rathmines Town Commissioners, who wished to avoid a certain liability, was not successful. The Corporation of Dublin also opposed it as interested parties, but there was no serious opposition. Sir E. Beckett, Q.C., stated the case for the bill, which proposed that a swivel bridge should be constructed over the Liffey at Beresford-place, at a cost of £47,000, and that Carlisle Bridge should be rebuilt. The engineer of the Port and Docks Board (Mr. B.B. Stoney), stated in his examination that the bill proposed to include Clontarf and some other districts in the area of taxation. That these districts had not objected to the proposals in the bill, and the only objection to them proceeded from Rathmines, which was not within the existing area. He said Carlisle Bridge would be widened to the breadth of Sackville-street, and it would be lowered 2 ft., by which it would become practically a level bridge. The present width of Carlisle Bridge he stated to be 44 ft., and that its enlarged width would be 150 ft.,—Westminster Bridge being only 84 ft.

In answer to the chairman of the committee, Mr. Stoney said the rise of the tide at the new bridge was 12 ft. at spring tides, and 7 ft. at neap tides. The new bridge would have a headway of 40 ft., which he believed would be sufficient to accommodate any vessel passing that point. It would take three minutes to open and three minutes to close the bridge. It was Mr. Stoney's opinion, as an engineer, that any smaller works would not be sufficient for the traffic.

We hope soon to see the new bridge in course of construction. It is a want which we have pointed out and advocated for many years single-handed, but its utility and feasibility is now acknowledged by many.

THE STATUE OF DR. WILLIAM STOKES.

A STATUE to the living is not often erected. It is only when they pass from our midst we pretend to discover all their great virtues and abilities. How far better would it be for us to recognise worth in the living, and pay a tribute to the possessor than wait until his heart was stilled for ever, and the grave had closed over him who had once walked the land his name and intellect had honoured? Why reserve, as we do too often, our praise and our testimonies for set occasions? We often allow our greatest men to work for years in our service and die in harness, and during their long labours an occasional vote of empty thanks is all we deign to vote them. Public benefactors should be rewarded while they live, and our admiration should not be expressed when we can only speak to the "dull, cold ear of death." It is pleasing and satisfactory to find such an unanimity among all classes in this city—indeed we might add the whole country, in the matter of honouring Dr. Stokes. There are few professional men amongst us so well deserving of honour and respect; and the recognition that he has now met while living, by the inauguration of his statue in the hall of the College of Physicians, Kildare-street, on 16th ult., was a meet and judicious one. The eulogiums of Dr. Hudson on the occasion of the unveiling of the statue, was able, graceful, and discriminating. Other members of the medical profession, from the President of the College downwards, spoke alike in spirit of one whom, as their teacher and guide, our distinguished countryman in other scientific fields apart it was a privilege to honour.

We will only add further that the statue was inaugurated in the presence of most distinguished general company. The unveiling was performed by his Grace the Duke of Leinster. The statue is of Carrara marble, nearly 8 ft. in height, standing on a plinth and pedestal of Sicilian marble, 5 ft. high. It occupies the near right-hand corner of the College hall. Like all of Foley's works, it evidences careful execution, and is acknowledged to be a faithful likeness.

CORRESPONDENCE.

IMPROVED RESIDENCES FOR TEACHERS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Referring to the subject of teachers' residences, you say of my design—"There is no sign or mention of the w.c., whether such is provided or needed, or where it is to be found; nor have we met with a word as to drainage." Allow me to say that I have intentionally omitted a w.c., on sanitary grounds as well as on the score of expense. Where the object is to provide a comfortable house at a cost of about £200, it would not be wise to have a w.c. in the house. The roof water would not be sufficient for it, unless there was an enormous impounding cistern; and without plenty of water, a w.c. must be a nuisance, and in the open country a dry earth-closet or ordinary privy in the yard is much better. As to drainage, this will depend entirely upon the nature of the site, and must be considered only with refer-

ence to the site. I agree with you that the most careful attention should be given to sanitary arrangements; but I respectfully submit that the closet arrangements suggested by Mr. Jourdan are seriously defective; he has his w.c. at the back of a fire, and his "serpentine" soil-pipe is built into the wall at the jamb of the hall-door. In this or any closet the soil-pipe should not be sealed up. The connexion with the drain should be by open trapped gullies, securing a free circulation of fresh air in the external open soil-pipe, so that no foul gas could return into the house. It is very desirable to have every room ventilated at the top. In Mr. Jourdan's plan this is not secured, for the heads of his bed-room windows are 2 or 3 ft. below the ceiling, whereas the head of every window in my plan is close to the ceiling. I have provided such accommodation as will obviate the necessity for large pieces of furniture, and I have thoroughly ventilated each pantry, but Mr. Jourdan gives only one small pantry, about 5 ft. square, without any light or visible means of ventilation; and his rooms are as bald as they can be, with an unchecked draught from front to back in each case; and lastly, I will venture to submit that I give very much more available space in proportion to the bulk of the building than Mr. Jourdan does, and, therefore, mine must be the most economical building.

WILLIAM GRAY.

Belfast, March 25th, 1876.

TRADES UNIONISM IN DUBLIN.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—That saying of the celebrated Dr. Johnson,—"Sir, let us walk down Fleet-street," is so apt a method of bringing the lovers of literature to dwell at once upon favourite cogitations, that I am inclined to be imitative, because I desire to come to the subject of my remarks, and bring your readers with me, if I can, without much preface.

To the fifteen hundred "chips," then, who, somehow or other, get a living in this good city of ours, let me say—if it is possible that so large a number will attend to my call—"Shopmates, let us walk down Gloucester-street."

To them this saying will have a world of meaning, and will, perhaps, call up emotions which may be described as exultant or resentful, according to the state of mind of the perambulators who may peruse your paper as they stroll along.

Ha! my friends, here we are, and yonder is "The House"—our "House," looking as neglected and woe-begone as the unfortunate carpenter who, bent down by years of toil, and now, with blighted hopes, is compelled to quit the work-shop for the work-house, according to the statement of "A Journeyman Joiner," in last issue of the IRISH BUILDER. May the "scribe" of "A Journeyman Joiner" never lose its point, for thus drawing a line in the old man's cause! Taken together, the "House" and the "man" look very dejected—the former for want of some one to shelter, and thereby show that it is doing good work; and the latter, for want of the shelter the "House" held out to him in his youthful days. To those of your readers, Mr. Editor, who, like myself, hold a "right of way" through this sad-looking concern, I am inclined to make a bit of a speech, by way of backing up "A Journeyman Joiner" of last issue, who has evidently digested our motto, *Sis verax, et ne timeas*, which, it strikes me, has been, to the most of us, but a mere parade of words.

Shopmates—There stands your "House"—a charitable institution without a legitimate inmate; and the spirit of the benevolent man who bestowed it upon you, that you might the better provide for the poor worn-out "chip," seems to me to grow restless, because of the use you have put it to. Can you say it's a success? Can you say the trust is safe in your hands? Seeing so many old fabrics tumbling down in Dublin these days, I took it into my head to examine our "House," and, although it does not seem to be rickety, yet the greenest apprentice amongst us could tell that it is not stable. What is the cause? That "binder" in the foundation—"I solemnly declare that I will not work with any man or boy who does not hold a ticket or pass from this council table"—is rotten; and my advice to you is, to take courage—moral courage—and erect the "hoarding," shove in the "needles," "shore them up," and replace that unlucky clause with one that speaks of toleration. Your flimsy leaders, your faction fights, your fraudulent officials and unseemly squabbles, all exist because of that rotten binder. Shall I say any more? Well, not



J. PHILLIPS. DEL. 1876

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much. Because it was so hard to get a hearing within your councils, I am compelled by the feelings which "A Journeyman Joiner" has awakened within me to say this much outside; and I will conclude my remarks upon this occasion by saying—"Don't offer the right hand of fellowship while the left is itching to clutch at your shopmate's throat. Your idea of trades unionism at present before the public is but a 'mockery, a delusion, and a snare.'"

Sir—To those of the fifteen hundred who are not possessed of this "open sesame," and who object to pay blackmail to be allowed to work, I would say a few words.

Would-be shopmates!—You have been very forbearing in the past, and I, for one, renounce all right to the monopoly which an arrogant pledge might secure. You have, like the old man in the fable, got tired pelting us with tufts of grass, and I see by the "square cuts" slashed at us by "A. J. J.," that you are going to try what virtue there is in stones. Persevere. Let your rallying-cry be—"Open the shops;" and, above all things, look to the support of the worn-out old man, and the orphans of your fellows. Reform! be your watchword; and remember the words of the poet—

"If what shone afar so grand
Turn to nothing in thy hand,
On again, the virtue lies
In the struggle, not the prize."

In conclusion, let me ask you to be on the lookout for "proposed alterations," which are in good hands, and which, it is to be hoped, will be soon completed. CLERK O' WORKS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—For the credit of the society to which I belong, I take it upon myself to say that our members are not bound by any such arrogant pledge as that quoted by "A Journeyman Joiner" in your last issue. Neither were we the promoters of the strike to which he alludes. We do not object to work with any legitimate carpenter; and I am sure that every employer who will take the trouble to inspect our rules will consider them framed in a liberal spirit. They, as well as our books, are open at any time to the inspection of any person who may take an interest in our body. As we are but sixteen years in existence, it cannot be said that any man contributed for fifty years to our society who was compelled to die in the workhouse. We provide a benefit of 11s. per week for those who may be out of work through depression of trade; 13s. per week sick benefit; and I am sure the sum of £12, provided for the next of kin, is sufficient to give our members something more than a "pauper funeral when death snatches them away." The age of coercion is, happily, ended—at least with us, who have more powerful arguments than intimidation or underhanded depositions could produce to guide us. When we solicit work, we do not expect that men already employed upon the premises will be discharged on our account; and, therefore, we never attempt to stand before any man who seeks to work by our side. Our motto is "Live and let live;" and I think it ought to be the motto of every honest workman.

Although some may blame us for not striking for wages, after the fashion of old times, I am happy to say our men are well employed at the standard rate, and give general satisfaction; and on no account do we admit a member whose ability as a workman is not up to the mark.

Believing that the letter of "A Journeyman Joiner" will be productive of much good; and feeling that I was in duty bound to say something for the honour of our society, I remain, Sir, yours truly,
AMALGAMATED MAN.

THE ROYAL IRISH ACADEMY.

THE Report of the Council for 1875-6 furnishes a large amount of useful information, and shows the activity that is existing in all departments of our national Academy. Since the date of last Report, the following parts of the "Transactions" have been published:—

Vol. XXV.—Parts 12, 13. "On the First Comet of 1845, and on the Binary Star μ^3 Bootis;" by Dr. Doberck.—14. "On the Anatomy of Insectivorous Edentates;" by Dr. Macalister.—15. "On the Fern Flora of the Seychelles;" by J. G. Baker, F.L.S.; with Notes by E. P. Wright, M.D.—16. "On the Structure of the Spines of the Diadematidæ;" by H. W. Mackintosh, A.B.—17. "On the Nine-point Contact of Cubic Curves;" by A. S. Hart, F.T.C.D.—18. "Experiments on the Movement of Water in Plants;" by W. R. M'Nab, M.D.—19. "On the Binary Stars σ Coronæ, γ Ophiuchi, γ Leonis, and ζ Aquarii;" by Dr. Doberck.—20. "On the Superinduced Divisional Structure of Rocks, called Jointing;" by Dr. W. King. Also, Vol. XXVI.—Part

1. "On the Binary Stars 44 Bootis, η Cassiopeiæ, and μ Draconis;" by Dr. Doberck.—2. "On the Intertubular Tissue of the Mammalian Testicle;" by Reuben Harvey, M.D.—3. "On the Chemical and Mineralogical Characters of the Lavas of Vesuvius;" by Rev. Professor Haughton and Professor Hull.

In the department of Polite Literature and Antiquities, there are in the press:—"On the Felire of Θ ngus," by Whitley Stokes, LL.D.; "On the Bell of St. Patrick," by the Very Rev. W. Reeves, D.D.

It has been found possible to publish the Science portion of the new series of Proceedings at quarterly intervals throughout the year:—Part 2 of Vol. II. in April; Part 3 of the same volume in July; Part 4 in October, 1875; and Part 5 in January of the present year. These parts contain twenty-five memoirs, many of them of great value, with illustrative woodcuts, and thirty plates. Part 2 of Vol. I. (second series), containing papers on Polite Literature and Antiquities, was published in December, 1875.

Besides an address delivered by the president at the opening meeting of the present session, communications by the following authors were laid before the Academy in the course of the year:—In the department of Science—by Rev. Dr. Robinson, Dr. Robert S. Ball, Dr. A. S. Hart, Dr. Doberck, Dr. Dreyer, Rev. Mr. Haughton, Professor Downing, Professor Leith Adams, Dr. Davy, Professor W. King, Dr. E. P. Wright, Mr. A. W. Baker, Dr. Macalister, Mr. H. W. Mackintosh, Mr. E. T. Hardman, Dr. J. E. Kelly, Rev. Eugene O'Meara, Mr. G. H. Kinahan, Dr. C. R. C. Tichborne, Dr. R. J. Harvey, Mr. C. E. Burton, Professor M'Nab, Dr. Studdert, and Mr. Plunkett. In Polite Literature and Antiquities—by Mr. R. R. Brash, Dr. Ferguson, the Very Rev. Dr. Reeves, Mr. Garstin, Mr. D. Crofton, and Mr. Thomas Plunkett.

The literary and scientific activity of the Academy, indicated by the amount and value of the communications made to it during the past year, would seem to be in some measure due to the promptitude and regularity with which papers read before it are now published. In this respect, the Academy, during the past year, has probably not been surpassed by any other scientific body. All the papers in the department of Science, read at the meetings up to the end of the year 1875, are already in the hands of the members. The publication of the papers in Polite Literature and Science is also in a very advanced state; and the total amount printed seems to exceed that of any other academic year.

Within the past year several antique articles in gold, silver, bronze, &c., have been acquired for the Museum by purchase or donation. All the bone objects in the collection have been re-arranged, and the greater portion placed on trays specially constructed for them in Wall-case No. 4, in the Long Room. In the Strong Room two horizontal glazed cases have been adapted to the window recesses, and some progress has been made in the arrangement of objects in them. The alterations in the basement storey, commenced some time since, have been continued, and this portion of the Academy's House is now provided with upright glass cases, and thus rendered available not only for the purposes of a lapidary museum, but also for the exhibition of numerous miscellaneous articles. During the last eight years a continuous series of operations has been in progress towards the arrangement of the Academy's collections, their protection against risk from fire, and the construction of new places of deposit and exhibition. These efforts have now been substantially completed, and the general result may be here briefly indicated. All our more precious objects have been brought together in a fire-proof room, and our other antiquities of a less bulky kind have been placed in well-arranged cases in the adjoining apartments of our first floor, whilst space for the deposit and exhibition of objects of a greater size, as well as of our surplus collections of bronze and iron, has been obtained by the conversion of our basement storey into a suite of four apartments, extending through a length of 140 feet, and having, through the greater part of this extent, a breadth of 40 feet. Although these apartments are low-ceiled and well lighted by day, they suffice for our present wants, especially as effective artificial lighting has been provided for evening exhibitions. Evening openings, to which the public might be admitted, have been constantly kept in view during these preparatory operations, and the work has now advanced to a state of completion which will probably allow of such admissions within the present session. A handbook for visitors on such occasions is in course of preparation, and will shortly be issued.

It may here be mentioned that the amount available for the continuation of the Museum Catalogue, invested in Bank of Ireland stock, represents a sum exceeding one hundred pounds.

The second and concluding volume of the Academy's edition of the *Leabhar Breac* has been published within the year, and the work of transcribing

and lithographing the Book of Leinster is in progress. Mr. O'Longan, assisted in the collation by Professor O'Looney, has executed his facsimile transcript of that manuscript as far as page 200, a portion which comprises nearly half the work, and the whole of this portion has already been printed.

The attention of the Council having been called to a letter published in the *Revue Celtique* for February, 1875, in which certain errors of transcription were alleged to exist in the Academy's edition of the *Leabhar na-h Uidhri*, the Committee of Polite Literature and Antiquities was requested to examine into the alleged errors. That Committee accordingly conducted such an inquiry, and embodied the results at which it arrived in a Report, which was adopted by the Council, and having been afterwards laid before the Academy, and printed in the minutes, is in the hands of the members.

The printing of the three-text edition of the *Felire of Θ ngus*, with translation, by Mr. Whitley Stokes, is almost completed, and the issue of the volume may be expected before long. Considerable progress has also been made in the printing of the edition of the *Tain-bo-Cuailgne*, by Dr. William K. Sullivan. The Academy has been able to undertake these publications in consequence of the additional aid, to the extent of £200 per annum, voted by Parliament during the last two years, for the publication of materials prepared under the previous grant of the same amount enjoyed since 1868.

A sum of £481 5s. has been included in the Parliamentary estimates of 1876-7, as the first portion of the special grant for the publication of the *Annals of Ulster*, a work which, it will be remembered, was undertaken by the Academy at the instance of the Irish Government. It has been arranged that they shall be printed in the Irish character, and in a size uniform with that of the series of historical works published under the direction of the Master of the Rolls in England. The Council are happy to add that the Very Rev. Dr. Reeves has undertaken the task of editing the *Annals* for the Academy.

A portion of the first fasciculus of photographs from casts of Ogham inscriptions, is in the hands of the autotype printers. It is intended to include in this issue the several texts in the Academy's Lapidary Museum.

An application was made to the council in May, 1875, on behalf of the Arctic Expedition, for the use of the spectroscope of the Academy, as being the best in existence for feeble light, and therefore specially adapted for observations of the Aurora. The council thought it right to give the use of the instrument for this important public purpose, an undertaking being, of course, obtained that the spectroscope should be returned at the close of the expedition.

An important communication was lately received from Lord Sandon, Vice-President of the Committee of Council on Education, announcing the intended establishment in this city of a Science and Art Museum for Ireland, and suggesting the transfer of the Academy's antiquarian collections to Her Majesty's Government, and the removal of the Academy itself from its present premises to Leinster House. This communication having been fully considered by the Academy at a very recent meeting, it appears unnecessary to enter into particulars respecting it in this report, especially as no further communication on the subject has since been received from the Government. The letter of Lord Sandon and the resolutions adopted by the Academy in relation to it, have been printed in the minutes.

The treasurer has every reason to anticipate that the accounts for the year ending with the present month will exhibit a highly satisfactory state of the finances of the Academy.

We have lost by death within the year three honorary and ten ordinary members.

The name of one of our ordinary members—that of Mr. Brash—has been of frequent occurrence in our Proceedings. He was a zealous and industrious student of our National Antiquities. He published, not long before his death, a work on "The Ecclesiastical Architecture of Ireland to the Close of the Twelfth Century," and he had collected materials for a companion volume to be devoted to the history of the Pointed Styles, as practised in this country. He also contributed memoirs on kindred subjects to the "Ulster Journal of Archaeology" and to the "Proceedings of the Royal Historical and Archaeological Society of Ireland." He had of late occupied himself much with the study of Ogham inscriptions, and embodied the results of his researches in papers read before the Academy. He discovered several new inscriptions of this kind, and called attention to others which were known, but had not received due attention from investigators; and has thus done real service in the elucidation of this obscure and difficult subject.

Nineteen members have been elected since the 16th March, 1875.

LECTURES ON ARCHITECTURE.*

I THINK I may perhaps profitably commence the first lecture of a new series by attempting to consider what may be the scope of an architect's duties, in the ever-changing circumstances among which he is likely to be called upon, in the future, to apply his art. Like all true artists, he will inquire how far he may expect to draw his inspiration from Nature; and we may therefore also briefly consider what are the lessons which Nature can teach us. As architects, moreover, must work in the midst of mankind, we may further see how they are to apply the principles they may have derived from Nature to their practice in crowded cities, and among the fever-haunted dwellings of the poor. To do this successfully will tax their powers, both as artists and constructors, and may raise the question of that division of responsibilities under these two heads, which has been a favourite idea of some theorists.

In an age which accepts the doctrine that every wish must have its justification, and that society is to be based on the principle of the "greatest happiness of the greatest number," the nineteenth-century architect is ever brought face to face with utilitarianism. He has to study social difficulties, and to ask himself how his art is to solve the problems to which they give rise. He may stand aside, like the rustic, while the stream rolls on, or he may strive to guide, control, and elevate that which he is powerless to prevent. New provisions may be necessary for new wants, and an instructed society may perhaps find, in co-operation, a force to oppose to ignorance and selfishness. I propose to-night to ask your attention for a short time to these points, as I think they raise questions on which a little thought on your part may not be thrown away; and to bring out such thought is the main object of these lectures. Let us first consider the aspect of Nature towards Architecture.

Since we last met in this place, I doubt not that many of you have been seeking health and recreation in travel. Some have, perhaps, devoted their time to the inspection of the great artistic monuments of the world. Others, and probably the larger number, have found their greatest happiness far from busy towns, amidst the plashing of waterfalls, the roaring of avalanches, or the glories of heath or sea. Nor, although architecture as a technic art may not seem to gain directly from holidays thus spent, am I disposed to say anything in opposition to such a course. It may be that we are always apt to have a tendency to excess, so that our very virtues may become vices "to scourge ourselves withal." A restlessness of body and of mind often leads to a course of travel which is more of a toil than a pleasure, and leaves on the mind shadows of objects and fragments of theories, half seen and half digested, of no more value to the art student than the feverish dreams of a brain-sick man.

I will not assume, however, that this is the spirit and temper of those among you who have devoted yourselves to the study of an art such as architecture, which demands the serious purpose of a life, and which possesses an importance as regards the public weal, to which a tardy justice seems now to be in some degree rendered.

If, therefore, those of you who, as architectural students, pass the major portion of your time in the study of lines, arches, and angles, devote a vacation's leisure to the enjoyment of the works of Nature, I do not question that in so doing you follow a wholesome instinct.

Architecture, with all its glories, is but a work of man, easily comprehended, imitable, finite. How then can it be compared with the creation of God, infinite in variety, beauty, and power? The study of the former is necessary to the instruction of a skilful architect. A reverent love and admiration of the latter seems to me an essential portion of the character of a good man.

I would not have you infer, however, that I would draw any sharp line of demarcation between the love of Nature and the love of Architecture. There is, and should be, no necessary discordance between the two, though I cannot but admit that there is a certain inferiority in this respect of our art as compared with painting and sculpture.

These latter draw more directly on the fount of inspiration supplied by Nature, and no man who is insensible to her charms can ever be a great artist.

To an architect any direct borrowing from Nature is forbidden. He may accept principles, but their application must be determined by the rules of art, which exclude actual imitation. I do not, of course, forget the pleadings of some amongst us for the exact reproduction in architectural details of examples of life from the animal and vegetable kingdoms. I pass this over for the present, not only as a controverted theory, but because it deals only with details, such as capitals, string-courses, key-stones, and the like, which are after all only the subordinate parts of an architectural design. To the composition, as a whole, no such naturalistic theory can apply. No one, as far as I know, has yet proposed to build a house in the form of a tree, and we may dismiss from our minds any idea of direct imitation of Nature. In the crags of mountainous regions a certain resemblance to castles may at times be imagined, but this would only apply to a distant view, which would take in the outline only, and not to the details and accessories, which would destroy all illusion on a closer inspection.

It is evident, therefore, that imitation of Nature being forbidden to the architect, our lesson from her, architecturally speaking, must be negative, and I think much may be learnt in this way. Bear in mind, however, that, as I said just now, we must look for principles, not for their detailed application.

Let us for a moment try to analyse the effect produced on the spectator of natural beauty. He sees first variety; not any regular balance of parts, as in a great cathedral or temple; not formality, not regularity. No portion of a hill, river, or landscape repeats any other part of it. The variety is infinite; symmetry, in an architectural sense, altogether absent. Light and shade are not, indeed, excluded, but they are subordinated to colour—pure, abundant, and local. No two trees, boughs, or even leaves are absolutely alike.

Again, Nature charms by motion; ever active, incessant. However still the sky, the leaves are restless, the waters ever bubbling in their pebbly beds, the animals fulfilling their appointed destiny. The clouds never remain the same; at one moment rolled into heaps of smoke-like mistiness, at another breaking out into the likeness of "gorgeous palaces and cloud-capped towers." We see them, perhaps, for a time wearing a dull and leaden garment, to find them breaking forth presently into chameleon hues of colour which no painter can rival.

You will notice that I have spoken here of the means by which Nature addresses herself to the eye. This is the aspect with which the architect is chiefly interested; and we need not concern ourselves here with the scarcely less important appeals she makes to the other senses—the music of her winged songsters, the perfume of her flowers.

The architect, having fully recognised his inability to find actual precedents in Nature, has next to teach himself that in opposing her principles of beauty he may find lessons for his artificial practice.

For, as we have seen, the principles which we admire in natural beauty are exactly those which we neither wish nor expect to find in architecture. Against variety, we seek symmetry, formality, order; against motion, repose, stability, unchangeableness.

Symmetry does not exclude variety in detail, but it requires a balance of parts such as we do not see in the inanimate works of Nature. In all great architectural masterpieces of antiquity you will find this balance

of parts, not forced or overstrained, but arranged simply, in accordance, it may be, with routine or precedent, but satisfying both the imagination and the actual sense of sight.

You will not misunderstand me by supposing that I mean here by symmetry any rigid uniformity of centre, and wings, naves, and aisles, one on this side and one on the other, regardless of the special circumstances of each case. No, I do not mean this: I am thinking rather of the symmetry which manifests itself alike in the Greek temple and mediæval abbey, a recurrence of subsidiary details, each necessary to the other, a harmony of features, measured, orderly, and dignified. You may, of course, have a mere mechanical regularity, where each part may repeat its fellow, until it disgusts with its poverty and its insipidity.

But none the less is it true that our art loves a true symmetry, and finds its greatest effects in a repetition of well-proportioned parts. You know the beauty of the "long-drawn" aisle of any of our great churches, and the same principle holds good in more barbaric structures, such as the great Hall at Karnak or the temples of India, while it also applies with especial force to the works of the Greeks.

Again, we seek in architecture repose and stability, as opposed to the motion of Nature. With her everything is in perpetual change. The seasons press upon each other. Earth, air, and sky have each their thousand signs of life; and with life come change and motion. The sighing of the wind, the murmur of the stream, the hum of myriads of insects—all these proclaim the prevalence of change, the provisional character of the world in which we live.

Against this, in architecture, we oppose our attempts at permanence—a permanence limited, indeed, by many shortcomings, but not without such a measure of success as to be able to exert a powerful influence on the mind. We know how strenuous and earnest have been the efforts of all ages in this direction. "*Non omnis moriar*" was the touching cry, half boastful it may be, but full of pathos, of the Roman poet. There is no history, no mythology, which does not indicate the repugnance of the soul to the thought of extinction. Whatever criticisms we may hear on theological systems, we come upon this solid incontrovertible fact, that all times and nations, all philosophies and religions, have revolted from the idea of annihilation, and have sought in our art for enduring memorials of their aspirations. This it is which gives to architecture one of its principal sources of power. Of course she has no actual charm against that terrible fiat of change which has gone out against all human work. Her arches totter, and her stones crumble. Her permanence is only relative, but, such as it is, it is a powerful influence, and affects us all in a more or less degree. The visitor to the Pyramids, to Athens, or to Rome feels a new interest in the people to whom the monuments he sees around him were household words; and the contrast between what has been and what is, is calculated to teach lessons of grave and serious import to the most thoughtless among us. Alas for those who are past such lessons!

Architecture, then, has within its reach an interest due to the efflux of time which is not shared by the other arts. The latter depend more completely on present sense. A symphony of Beethoven is neither more nor less sublime now than when it first started from the brain of its afflicted composer. It is the same with a sculpture of Phidias or a painting by Raffaele. These works of artistic genius owe nothing to time—in fact they are more likely to be injured by it than to gain anything by its influences. With us it is different; the mellowing effect of time on architecture has a charm all its own, linking the past with the present, blending one age with another, and exciting powerfully the imagination of men.

Look, for example, at the study of archæology; see how it unites various tastes and

* By Professor E. M. Barry. Delivered at the Royal Academy.

natures; observe its almost too powerful influence on the architecture of the day.

And this leads to the consideration of a point which I dare say troubles many of us. In what will the architecture of to-day interest our successors? A writer on art has lately inquired, "Will the restorations on which this age has prided itself ever become a bye-word of reproach, as similar works, vaunted in their own day, have become among ourselves?" I noticed an expression of the same feeling not long since with reference to a work contemplated by one of the most highly educated societies in this country. "What guarantee," it was asked, "have we that, in thirty years, the notions of the present day may not have become antiquated and shocking to the tastes of our sons and grandsons?" It is difficult to answer this question, if we are to have no higher aim than the fleeting fashion of the hour. I believe your safeguard will be in the application of common sense to architecture. Ask yourselves, not what is fashionable, but what is reasonable; for, depend upon it, good architecture has ever been founded on reason and common sense. Fashion arises from a thousand passing influences, all of them more or less unworthy. Ostentation and vanity are its parents, and with them it deserves to fall. If you would succeed in your art, avoid these pitfalls; seek to meet existing wants unobtrusively and sensibly. Do not believe that it is the duty of the architect to construct "startling effects;" rather aim at strength, solidity, and simplicity, and thus you will be on the way to obtain that permanence of interest which we admire in the achievements of earlier times.

Once more, there is no vulgarity in Nature. So should it be in architecture. Feebleness, however, is not the negation of vulgarity. Churchwardens' whitewash is not the evidence of a pure taste. We must seek the latter rather in the absence of apparent effort, and in the harmony of colour and form. You know how the slang of the day stigmatises some peculiarities of costume or manners as "loud." Now, Nature is never "loud," and you should eschew "loud" architecture, regardless of the praises of fashion, which may offer you the empty satisfaction of the moment. If some startling peculiarity challenges your notice, regard it with distrust, for the mission of architecture is, not to startle but to satisfy.

With repose in architecture is associated stability. We must be satisfied of the one before we can appreciate the other. To obtain stability in an artistic sense, a reserve of power is needed. It is not enough for us that a building stands. Our judgment must be satisfied that it ought to stand, and that it will go on standing. We must obtain on this head perfect satisfaction. It is the want of this confidence which troubles us with so much of the iron constructions of the day. We see great spans covered or bridged. We look up at the roofs, and are glad to get from under them. Will they last? The engineer will tell us the tensile strain on an iron plate, and the number of inches of sectional area necessary by calculation, and assures us that the stress upon his roof is well within the calculated strength. It may be so: our judgment may be convinced, but not in an artistic sense. The thing is bald and uninteresting; and we think of works of architectural art, as to which no such questions intruded themselves, because the requirements of true architecture were effectually supplied. The mediæval architects were not always proof against the temptation of seeking to construct mere *tours de force*. Of such you may find an example in the Cathedral of Beauvais. Here the ambition of the architects to surpass what had previously been done led them to mistake bigness and daring construction for art. The spire has fallen, the roof gave way shortly after its erection, and the nave arches have had to be strengthened by the insertion of intermediate columns, bisecting the original arches. Want of repose and stability are fatal to the artistic effect of the design, which deserves

study, however, as an exaggeration and a warning.

To secure stability in architecture a margin of strength is therefore required over and above the necessary demands of the moment. In actual professional practice this is not always easy to obtain, so great is the demand for cheapness of construction, and architects not only live to please, but must please to live. How many of our cathedrals would be left to us if they had been built on a ninety-nine years' lease? To our shame be it said, there are few countries in which flimsy building is so much the rule as in our own. Low rents are more thought of than healthy homes. Thin walls and unsteady floors are regarded with indifference, and, if it were not for the great value of land in our large towns, would have even more serious consequences than they now involve. Happily for us, one evil goes some way to cure another. Houses (at least in London) are so closely packed that they sustain each other, and also aid their neighbours with their surplus heat. But without good solid building there can be no architecture worthy of the name, and you must ever be on your guard against flimsiness and instability. If you are stinted for money, prune your ornament with an unsparing hand; part, however regretfully, with your carving or your pet effects; better by far put your substance into your walls. They may at least reward you with good, solid-looking reveals, with their effective shadows. At any rate, it is better to live in a substantial barn than in a flimsy palace, tottering to its fall.

I once heard a prominent civil engineer say that every railway station ought to be pulled down and rebuilt every ten years. The growth of traffic and of modern wants is rapid, and such structures are too often built for utility alone. Architecture, however, will not be satisfied with so brief an existence. It must aim at so much of permanence as it is permitted to mortals to attain; it must hand down the present to future ages, even as the past speaks ever to ourselves.

Do not believe that, in applying common sense to your architecture, you will necessarily injure its artistic effect. Such a creed would be an insult to your art, for it would imply that between it and common sense there is a gulf. This is not the case. Observe Nature once more. How simple and sensible is her construction! Look at a tree in the full glory of summer verdure, with its weight resting on a single trunk. There is the type of the architectural column, utilitarian if you will, but also a truly artistic expedient for carrying weight. You will not find Nature placing the weight on the ground and the column in the air, nor will you see her shafts dotted about the structure as misapplied ornament. Here is an instance as to which we may fairly enough take a direct lesson from Nature, and remember that a column should have a reason for its existence.

The love of Nature, therefore, is good for the architect. It is good for him to be surrounded by beautiful things—refreshing the eye, too much offended by its daily work among mean or commonplace objects. He can study the eternal principles of beauty, and ask himself how to apply them to his art. Amongst the works of God he may cultivate simplicity of character and refinement of feeling, which will surely make themselves felt in his works, for you can only get from a man what there is in him. Descending from principles to details, he will know how to admire Nature's harmonies of colour, form, and proportion, which will put him on his guard against those conceits and extravagances which too often mar modern architectural designs. If he is at times tempted to rebel against the utilitarian side of our art, and to complain that he is made to serve tables, let him notice how wonderfully adapted are Nature's means to her ends. Take the hollow stalk of a bulrush, for example, where you have the application of least expenditure of material in the form of greatest strength. However seemingly prodigal of her resources, Nature, while neglecting nothing,

is never wasteful or inharmonious. She has lessons for all, and for none more than the architect.

(To be continued.)

HANDICRAFT AND HANDICRAFT TOOLS.

HAMMERS.

(Continued from page 81.)

Now to apply the remarks which have been made during the last few minutes to hammers.

On the table are the hammers used in gold-beating. Messrs. Morewood, of Whitfield-street, Tottenham-court-road, have not only supplied these hammers from their workshops, but they have added this further kindness in mounting between glass various stages of the process of gold-beating, and practically to illustrate the operation one of their workmen is in the room with all the appliances needful to show you how their hammers are used.

The faces of these hammers require our first attention. They are slightly convex, and upon the amount of this convexity depends their value. Here is a very old hammer, but still a very good one, better, I am told, than any of its younger associates. Why good? because the convexity of the face, coupled with the weight of the hammer, produces exactly that effect upon the metal which is desired. Perhaps the delicacy of the operation will be more truly appreciated if the process be described, and then witnessed in operation.

The gold-beater's art in the production of gold leaf was practised (say) 3,000 years ago. He uses for the production of the leaf three hammers, with short handles; one weighing 17 lbs., the second 9 lbs., the third 7 lbs.

It is a somewhat curious commentary upon the principles which govern our handicraft procedures, that one of the hammer-heads of the gold-beater is heavier than the single-handed sledge-hammer of the forgerman and smith, which weighs only 10 lbs. It may be well now to compare these two heavy single-handed hammers.

It will be observed that the centres of gravity of these sledges are below the intersection of the handle with the head. The object of this is that the workman may the more easily and truly bring down the face of the hammer upon the work. Now look at any of these gold-beaters' hammers. This 17 lb. one for example. The centre of gravity of the head is about the centre of the hole in which the handle is fixed. The gold-beater practically ignores the centre of gravity. Now observe the faces of these hammers; they differ very materially. Old and worn as this one seems (and Messrs. Morewood tell me it has been in their workshops for fifty years) it is somehow regarded as the best hammer on their premises. This seems to result from the form of the face. The sledge hammer face is flat or nearly so, having merely the arris taken off. The gold-beater's hammer face is very different. The face and arris are formed to special and not chance curvatures. Some may be disposed to question the propriety of comparison, because the one is employed on heated metal and the other on cold. Those who thus think must remember that in each case an expansion of area is often the object of hammering. It must also be borne in mind that whilst the molecules of hot iron may be said to separate and reweld, so also in the process of gold-beating there is much disintegration and rewelding of the gold leaf (for gold in the thin state welds when cold). Perhaps a thoughtful practical smith might gain hints from a careful observation of the gold-beater's craft.

Great as is the contrast between the faces and weights of these two hammers it is still more anomalous that to be struck by such a mass of metal the gold is placed in the thinnest and finest and lightest of animal skins.

For the first hammer 160 pieces of gold, each weighing 6 grains, are put into a "cutch" of fine vellum and beaten for twenty minutes with a 17 lb. hammer, which falls about eighty

times per minute. Each beaten leaf is divided into four, and put into a "shoder" made of skins worn out for the third process, and containing 700 leaves, and beaten for two hours with a 9 lb. hammer, falling (say) eighty times per minute. Each is again divided into four, and put between the leaves of a "mould" composed of 900 of the finest skins, each made double from the cæcum of oxen,* beaten for two hours with a 7 lb. hammer, falling nearly 100 times per minute. The gold is thus reduced to $\frac{1}{150000}$ of an inch, less than our instruments can measure, and the thinness is usually estimated by the decomposition of the light. The mountings between these sheets of plate glass illustrate various phases of the process, and if any one will examine them by transmitted light he will appreciate that mode of estimating thickness.

Such is a brief description of the mode of gold-beating. Now as to the hammering. The workman stands erect, and uses the hammer with equal facility in either right or left hand. The whole body from the loins upwards is in motion, and the ease with which the work seems to be done is apparently a practical contradiction to the laborious duty these heavy hammers might impose. An explanation must be sought for this. The books ("cutch," "shoder," and "mould") are placed on solid anvils; the blow falls truly upon them. These books are of elastic material, and formed of leaves, between which are not only pieces of gold to be expanded, but thin films of air.

Now, air, as well as vellum or skin, is elastic. Hence the hammer falls upon what may be called a compound elastic body. Consequently there is a recoil, and I am informed that the effort of the workman in checking the height to which the recoil would raise the hammer, is more fatiguing than that required to impart the blow. From what was said in a former lecture this is a consequence of the muscular structure then explained. Hence it is clear that the blow of the hammer is resolved into two elemental parts; one the recoil, the other that portion of the blow which is actually retained (if the word may be used) by the book and utilised by the gold. Clearly this portion is distributed between the leaves of skin and the plates of gold, but the latter seem to possess themselves of the whole, for the little book of skins, measuring about five inches square, and about five-eighths of an inch thick, and worth about £10, will last nearly two years, and even then has a very fair pecuniary value to the beaters of what is popularly called gold-leaf, i.e., Dutch gold.

If now we reflect upon the operation just witnessed, it consists in spreading and so enlarging the area of a flat surface. Now, suppose blows to be struck in succession upon the centre of the piece, then this extension of the metal would be resisted by the thick periphery.

It is evidently needful so to adjust the convexity of the hammer face as that the atoms of gold may be so pressed, and no more than to force themselves amongst the contiguous atoms, pushing these forward, and so on to the margin; these margins have been previously thinned for the purpose of receiving the superfluous gold from the middle. Thus much may suffice to satisfy you that the forms of the faces of a hammer are of as much, and indeed more, importance than those of either rifle or cannon balls. The latter have been studied, and the principles arrived at with respect to them might very fitly be applied to hammers.

The experiments with the croquet balls have their bearing upon gold-leaf making. Had the blows been struck with a light hammer, the effects of the successive blows would not have penetrated to the middle of the thickness of the "cutch," and although the workmen may have turned it over and over again, the gold in the middle would not expand. So accurately are the weights and faces of the hammers proportioned to the

needs, that I am informed if the cutch is even one-sixteenth of an inch thicker in consequence of coarser skins, the beaten gold is not satisfactory.

In this penetrative power then, with these wonderfully light skins, and gold leaf so light that if the finger be drawn over a leaf it seems to vanish in the pores of the skin, and in the rivetting of iron plates in ship building and boiler making, the heavy hammer is a necessity not to be compensated for even by a lighter one producing the same units of work.

It cannot fail to interest you to witness another process, in which also a heavy hammer is the finishing tool. On this side of the room we have had the process of gold-beating; on the other side are those engaged in making springs for carriages. Contrast with this work of the gold-beater that of the spring-forger. Each artisan delivers the work finished from the hammer. In each case the hammers are heavy, i.e., the gold-beater uses a short-handled, one-handed hammer, the spring-maker a longer-handled, two-handed hammer. The gold-beater stands upright, and his whole body moves; the spring-forger stoops, and his body is as rigidly fixed as possible. The gold-beater does not expend energy in driving the hammer downwards; the spring-forger expends much energy in accelerating the velocity of a falling hammer-head—the spring-forger puts his right hand above the handle, in order not only to add to the accelerating force of gravity, but to resist that recoil which the gold-beater accepts. Each has to expand the surface of metals. Now the element which enters, causing two such opposite modes of dealing with the same object, is heat. The spring smith, with a skilfully arranged hollow fire, heats the end of a parallel bar of steel, and it is essential that as much thinning and tapering of the bar should be had as possible from each heat; hence the blows must succeed each other with great rapidity, and he cannot afford to lose any portion of the energy of the blow during the conversion of it into recoil; and there is not in his case any reason to do so, because there is not to be any transference of energy through one bar of steel to another. The whole effect of his blow is required on the spot where it may fall.

To show the varieties that exist in the skilful application of hammers, let me take one more example. Here are two extreme hammers as used by the makers of files which are also entirely the production of hammers. Messrs. Stubbs, of Warrington, have sent them with two chisels and two files as examples of the largest and smallest files made with the chisels and hammers used. It will be observed that in the largest hammer the handle is very short, and inserted into the metal at a very acute angle. This hammer weighs 10 lbs. In the smallest hammer the handle is longer, but also inserted into the head at an acute angle: the head in this case weighs less than half an ounce. In both the centre of gravity is below the insertion of the handle into the head; the panes of these hammers are small, every provision being made to ensure the reaction of the blow being through the centre of percussion. The skill, rapidity, and uniformity with which these hammers are employed is really surprising. Let any one with even a magnifying glass examine the cuts upon this large 18 in. file, or upon this delicate needle-like small file, and he will be satisfied that in the use of these hammers great care and skill are required. The rapidity with which the blows are given is very great, for the maker of this small file can make from 250 to 300 cuts per minute; the number and delicacy of these cuts may be inferred from the fact that in a fine half-round file of ten inches long there may be as many as 20,000 chisel cuts.

(To be continued.)

A HYDRAULIC CANAL LIFT.

At the meeting of the Institution of Civil Engineers, London, on the 21st ult., the paper read was descriptive of "The Hydraulic Canal Lift at Anderton, on River Weaver," by Mr. S. Duer, B.Sc., Assoc. Inst. C.E.

The object of this Lift was to transfer floating barges between the Trent and Mersey Canal and the River Weaver, and thus to afford an easy and expeditious means of communication between them, without the expense and delay hitherto incurred in transshipping goods. The idea of lifting the laden barges by hydraulic power originated with Mr. Edward Leader Williams, jun., M. Inst. C.E., at that time Engineer to the Trustees of the Weaver Navigation. He consulted Mr. Edwin Clark, M. Inst. C.E., on the subject, and after various designs had been considered, the arrangement of the details and the superintendence of the construction were entrusted to the author. The canal and river were close together at Anderton, but the level of the water in the canal was 50 ft. 4 in. above that in the river. The water of the canal was conducted by a wrought-iron aqueduct, 162 ft. 6 in. long, across an arm of the river to the end of the lift. This aqueduct was in three spans, of 30 ft., 75 ft., and 57 ft. 6 in. It was 34 ft. 4 in. wide, and a central web divided it into two channels, each 17 ft. 2 in. wide. This central web and the sides of the aqueduct were 8 ft. 6 in. deep, and formed continuous girders, which carried the aqueduct and the water, 5 ft. 3 in. deep, contained within it. The total weight of the aqueduct and the water was 1,050 tons, or about $6\frac{1}{2}$ tons per lineal foot. Excepting at the end, where it rested on the masonry of a basin leading into the canal, the aqueduct was carried on cast-iron columns. The lift was double; each half consisted of a wrought-iron trough 75 ft. long and 15 ft. 6 in. wide, capable of containing barges floating in water 5 ft. deep. The sides of the trough were 9 ft. 6 in. deep at the centre, and 7 ft. 6 in. deep at the ends, and formed girders to carry the weight of the trough, water, and barges, which amounted to 240 tons. This weight was transmitted from the sides to the head of a central ram, 3 ft. in diameter, by cantilevers which radiated from the ram to the sides of the trough. The trough was thus supported and moved up and down by one central vertical ram, which worked in a press sunk within a cast-iron cylinder below the bed of the river. The pressure on the ram amounted to about $4\frac{1}{2}$ cwt. per square inch. The trough had a lifting gate at each end, for the ingress and egress of barges, and there were corresponding gates in the aqueduct, so that boats could pass between the aqueduct and the trough according as they were to be lowered or had been lifted. The press under one trough was connected by a pipe, 5 in. in diameter, with that under the other trough, and thus water contained in one could pass freely into the other, by an equilibrium valve in this pipe. There was also a small steam-engine continually pumping water into an accumulator, to assist in the working of the lift. Piping 4 in. in diameter passed from the accumulator to each of the presses, and the accumulator could be opened to either of the presses as required. All the valves for working this apparatus were under the control of one man in a valve house on the top of the aqueduct. In working this lift, when one trough containing barges and water 5 ft. deep was at the top of the lift, the other containing barges and water 4 ft. 6 in. deep was in the river below. As the upper trough was heavier than the lower one, it followed that as soon as the valve on the 5-in. pipe was opened, the upper trough descended and lifted the lighter one out of the river, until, by becoming in its turn immersed in the river below, it lost part of its gravitation, and forced the lighter trough to within 4 ft. 6 in. of the top of the lift. The valve on the 5-in. pipe was now closed, and the remaining water in the press under the descending trough was allowed to run to waste into the aqueduct.

* A large bundle of the cuttings of these skins were on the table; from such cuttings the pieces are made which are usually sold as goldbeaters' skin.

BUILDING STRIKE IN FRANCE.—It is stated that 3,000 French masons and stone-cutters purpose going out on strike on the 3rd inst.

The trough consequently descended into the river, and the barges it contained had been lowered from the canal to the river. While this was going on the accumulator was opened to the press of the ascending trough, and this trough and barges were raised to within 6 in. of the top of the lift. The barges were lifted the remaining 6 in. by letting this depth of water into the trough from the aqueduct. Thus a depth of 6 in. of water over the area of the trough takes from the upper level was sufficient to lower one trough from the canal to the river, and at the same time, with a little assistance from the accumulator, to lift the other from the river to the canal. Automatic syphons insured a depth of 4 ft. 6 in. of water in an ascending trough. The edges of the gates were kept water-tight with india rubber, and the same material was used for making a joint between the troughs and the end of the aqueduct. The time required to lower one trough and to lift the other was three minutes. In a chain of locks at Run-corn having the same fall a boat could only pass one way in one hour and a-half. A very small staff was required to work the apparatus, and the total weekly expenses did not exceed £10. In addition to the time saved by this lift, compared with a flight of locks having the same fall, it was stated that when the traffic was equal in each direction only 6 in. of water over the area of the trough were used, instead of 50 ft. required by the locks.

HOME AND FOREIGN NOTES.

DUBLIN TRAFFIC REGULATIONS.—The regulations made by the Chief Commissioner of Police of the police district of the metropolis under the provisions of the Dublin Traffic Act of 1875, and assented to by the Corporation, are to be tried for a month, and if found not to work are to be altered. As they stand, some of the regulations in regard to facilitating traffic (passenger and vehicular) are good, as are also some in respect to the abatement of nuisances and the removal of obstructions in our thoroughfares. If the police are not compelled to carry these regulations out in their entirety, they will be useless for the purpose intended. As it is, we have other acts more or less bearing upon the same subject which the police do not take the trouble of enforcing. It would be the duty of the Commissioner of Police to see that the act is enforced as far as it is depending upon the body under his charge.

BELFAST INDUSTRIAL EXHIBITION.—It is proposed to hold an industrial exhibition and bazaar in connection with the Belfast Working Men's Institute, to be held in the Ulster Hall, and opened on the 10th of May. The exhibition is to consist of the following sections—Fine Arts, Scientific and Mechanical Appliances, Textile Fabrics, Economic Products, Natural History and Antiquities, and Bazaar and Fancy Work. The forthcoming Industrial exhibition is to be held for the two-fold object—that of developing local industries, and liquidating a debt incurred in the building and providing of necessary appliances in connection with the Belfast Working Men's Institute and Temperance Hall. We wish the project every success, and we have little doubt, considering how energetically the work has been commenced, that our Belfast friends will succeed in their objects.

CORK.—Re science and art, the following are the names of the gentlemen appointed at the late meeting to act as a committee (with power to add to their number) in preparing a scheme:—The Mayor, the Earl of Bandon, President of the Royal Cork Institution; Rev. Canon O'Sullivan, Dr. Sullivan, President of Queen's College; Dr. Caulfield, Dr. Colthurst, Messrs. R. Scott, D. Lane, T. Crosbie, W. Atkins, J. Beale, D. Sheehan, H. M. Goulding, J. Bennett, A. Hill, D. A. Nagle, and the City and County Members of Parliament. Messrs. Arthur Hill and J. J. Brennan were appointed hon. secretaries.

CORK SOCIETY OF ARTS AND MANUFACTURES.—A society under this name is announced as established during the late month—the sole object of the society being the advancement and support of arts, trade, manufactures, and every branch of industry amongst the Irish people, particularly in Cork. We are not favoured with the names of the executive committee; and if we are not confounding it with another current movement, we are inclined to think that this new society of arts and manufactures is a kind of "Board of Irish Manufacture and Industry," of which Dublin several

years ago had more than one example, and none of which were successful, for reasons which need not be specified. The objects of the society are good, but it strikes us there is too much proposed to be done; and we are not informed of the resources available, or of the men who are to work the movement.

ST. CANICE'S CATHEDRAL.—A committee has lately been formed for the purpose of completing the restoration of St. Canice's Cathedral, to which, though much has been done, much remains still to be done. A meeting of the committee was held in the Chapter-room on Thursday, the Bishop of Ossory in the chair. A report on some points which call for immediate attention had been obtained from the eminent architect, Mr. Thomas Wyatt, which was considered by the committee. It was unanimously agreed that an immediate effort should be made to repair the roof and to improve the heating apparatus of the cathedral; to place the organ in a better position; to complete the plastering of the interior and the cleaning of the stone-work, and to improve the fittings of the choir. It was found that it would require a sum of little over £2,000 efficiently to carry out these much-needed works. Gentlemen throughout all parts of the diocese having expressed their great interest in the cathedral, and having consented to act on the "restoration" committee, a sub-committee was appointed to draw up a statement, and to endeavour to raise the necessary funds.—*Kilkenny Moderator*.

THE "MOURNE" HOTEL, ROSTREYOR, CO. DOWN.—This building, now approaching completion, shows, we are informed by the local *Telegraph*, a frontage of 150 ft. towards Carlingford Lough. The centre portion is carried up one storey higher than the wing portions, and the centre roof towers up in a most pleasing manner, so as to artistically break the sky-line. The top of this roof is to be used as a kind of promenade, from which sweeping views of the adjoining woodlands and the lovely Bay of Carlingford will be commanded. Ornamental balconies will serve the sitting-rooms on the first chamber floor, and the dormer roofs of unique forms very happily blend with the principal roofs. The hotel is approached through a vestibule or porch, which will be separated from the entrance-hall by an ornamental mahogany screen. The ground floor comprises public coffee-room, ladies' coffee-room, drawing-room, and suites of sitting-rooms and bed-rooms, with bath-rooms adjoining. The upper floors contain a large number of sitting-rooms and bed-rooms. Each floor will be gained by an extremely handsome staircase. The most striking internal features, however, are the long and many-arched corridors that run from end to end of the building in each storey. The kitchen and the servants' apartments are situated in the basement. Fresh and salt water baths of every description will be at the disposal of the future guests, and to ensure their safety from fire each corridor will be fitted up with fire-cocks or hydrants. Indeed, in every conceivable particular their comfort and convenience are being skillfully provided for. All the internal woodwork is of pitch pine, from the workshops of Mr. Alexander Wheelan, of this town [Newry], and it reflects much credit upon him as a builder. The entrance-hall and ground floor corridors or passages are to be covered with encaustic tiles, and all the furniture is of special design to correspond with the architectural character of the building, which is a fine example of Gothic adapted to domestic purposes, and is in every way worthy of its enterprising proprietors. The designs were made by Mr. William James Watson, A.R., I.A.I., architect, of Newry, and the works throughout are being executed under his professional guidance.

The estimates for the year 1876-7 are by no means favourable to the establishment at South Kensington. There is a large increase—upwards of £17,000—in the sum devoted to the maintenance of the National Schools of Art and Science, but this is partly balanced by a severe curtailment of expense in other directions. Thus the amount to be granted for the purchase of works of art is reduced by £4,000, the amount for the reproduction of works of art by £1,500, and the expenditure on the Art Library by another £1,500. The South Kensington Museum is notoriously unpopular in the House of Commons, and it is therefore improbable that such a method of dealing with the establishment will encounter any serious opposition. It is, however, not very logical, or even perhaps expedient, that the development of the Museum should be hindered because of a necessary increase of expense in the management of the Art and Science Schools. South Kensington, whatever may have been its defects in the eyes of the Legislature, has done much for the education and advancement of popular taste in matters of art: it fills a very important place among her national museums, and is the one

of our institutions in connexion with art which foreigners conversant with English affairs constantly single out for admiration. Nor is there any reason to believe that it will have less to do in the future than it has done in the past, and we cannot therefore but regret a decision which threatens to limit so seriously its powers of usefulness.—*Academy*.

EXHIBITION OF COSTUMES AT THE ALEXANDRA PALACE.—An exhibition of a novel and interesting character will be held at the Alexandra Palace, under distinguished patronage, immediately after Easter. Prizes of considerable value will be awarded by the Alexandra Palace Company, and a committee appointed to carry out the exhibition, for the best designs in ladies' costumes, the decisions being based upon the originality, elegance, and economy of the dresses displayed. Several hundred varieties, including morning, evening, ball, and bridal costumes, &c., will be included in this competitive exhibition, and valuable opportunities of comparison will thus be afforded to costumiers and others, whereby it may be hoped that greater economy and elegance in dress may be attained than is afforded by the extravagant eccentricities which too frequently characterise the fashions of the present day. As buyers from all parts of the country visit London at the above-mentioned period, this exhibition will afford them facilities for inspection hitherto unprecedented. That it will attract an immense concourse of ladies cannot be doubted, inasmuch as the attractions of the shops and show-rooms of Regent-street and the West End will, for the time being, be transferred to Muswell Hill.

ARSENICAL ROOM-PAPERS.—At a meeting of the Chemico-Agricultural Society for Ulster, on the 3rd inst., Dr. Hodges said he had received several letters in reference to the use of arsenic in the manufacture of room-papers. He again explained that the method of testing room-paper for arsenic was very simple. It was merely necessary to place a small piece of the suspected paper on a saucer, and to pour over it about half a teaspoonful of solution of ammonia. If any of the arsenical green (Scheele's green or Schweinfurt green) were present, the solution would in a few seconds become of a rich blue colour; and if on placing a bit of lunar caustic, (nitrate of silver) about the size of a pea, in the solution, a yellow ring or crust of yellow arsenite of silver formed round the caustic, the presence of arsenic might be regarded as certain. When they had that simple test there was no reason why arsenical papers should be purchased. He thought it important to draw attention to this matter, so many cases of ill-health having been caused by poisoned paper on the walls of rooms. He trusted that the attention of the legislature would be called to the subject by some of their members; indeed, he did not think that they could perform a better service than by having the sale of these papers interdicted, as was the case in some continental countries. An immense quantity of arsenic was used in the manufacture of paper; and it was not merely in wall papers that it was employed, it was also used in materials for ladies' dresses, in paper covering confectionery, and in the little india-rubber balls sold for children. It was their duty to try as much as possible and prevent disease, and it was only by drawing attention to the matter that suffering and disease might be prevented.

TO CORRESPONDENTS.

THE LIBRARY OF THE LATE R. R. BRASH, ARCHITECT, M.R.I.A., &c.—The library of our late distinguished antiquary is advertised for sale in Cork on the 11th of this month. The collection comprises many valuable works on architecture, antiquities, history, transactions of learned societies, &c., and some valuable engravings. A good opportunity exists for those in search of scarce works relating to Ireland, her architecture, antiquities, and history. We sincerely regret that their lamented owner did not live many more years to enjoy his valuable collections, and to make like noble use of them as he did in the past.

ARCHITECT.—The matter was fairly stated, and such competitions should in future be avoided by all respectable architects.

TECHNICAL EDUCATION.—With facilities within their reach, we are sorry to say that the majority of our Dublin artisans are not availing themselves of them. We have intelligent and skilled operatives to be sure in our midst, but it so happens that often the independent and quick-witted workman is "sat up on," annoyed, and often ousted out of employment by a combination of low cunning on the part of hard drinking "good fellows." A reform is not only wanted in some trade circles in this city, but a complete and radical revolution. If this does not come shortly, the trades of Dublin will occupy an unenviable position.

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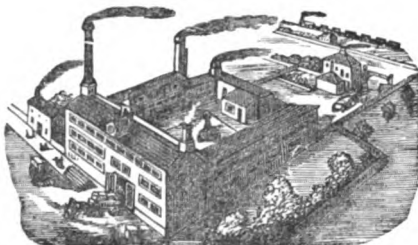
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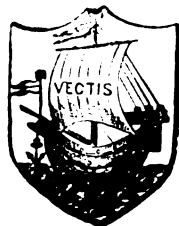
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The Irish Builder.

VOL. XVIII.—No. 392.

*Some Aids and Impediments to
Sanitary Reform.*



HE Temperance Reformer who is intelligent, sincere, and persistent in his efforts, performs valuable service in the cause of Sanitary Improvement. When between thirty and forty years since our late countryman, the Rev. Theobald Mathew, commenced his missionary labours to reform the drunkard, and check the progress of the evils that the drinking customs of our people were inflicting upon the country, modern Sanitary Science was almost unknown. The Medical Faculty then in general were, as a class, as hard drinkers as their patients; and indeed for long years after the advent of Father Mathew doctors looked upon Sanitary Reform with disfavour and a considerable degree of suspicion. The establishment of the National system of education some years before the appearance of Father Mathew as the "Apostle of Temperance," was a good beginning in one sense, as it was the placing of a cheap and serviceable system, as far as it went, within reach of the children of the poor. Nor must we forget that the Christian Brothers were to a degree at the same time providing an improved system of instruction for the members of their own creed. The hedge schools survived for some years after the regular establishment of the Christian Brothers' schools and the schools of the National Board of Education; and it is still a question if the hedge schoolmaster does not still live and teach in more than one of the remote districts of this country. The youth of Ireland in the earlier part of the present century, as well as in the last, owe not a little to the teachings of that wondrous class of philomaths, who essayed and undertook betimes to impart instruction in nearly all the circle of the sciences, and supplemented their scholastic code by lessons in etiquette, music, and dancing.

The London School Board are accused now by the opponents of education of endeavouring to teach too much to the poor man's child, but their list of subjects would pale in comparison with that presented by the Irish schoolmaster of the old school. True, when the teaching of the alphabet alone was charged at the rate of threepence a-week, and reading and writing at double that, but few of the agricultural labourers could afford to pay for their children's education. The children of poor Roman Catholic parents were placed at a great disadvantage, compared with the facilities open for Protestant children by the existence of the charter schools and other church schools or endowed schools. The children of the farming and mechanic classes, however, of both creeds could afford to patronise the efficient hedge schoolmaster of old, and many of these seminaries flourished in town and village throughout Ireland. There was still in Ireland fifty years back another auxiliary in the cause of education in the person of the

"Poor Scholars"—a singular and peripatetic order of teaching, for some years extinct. We well remember the "Poor Scholar" of our early days. This class almost perished in the Irish Famine. The "Poor Scholar" taught and travelled, carrying his strapped bundle of books on his back or under his arm. The first rudiments of his own education were obtained under the hedge schoolmaster, and self-tuition afterwards made up for the rest. It was the practice of the "Poor Scholar" to travel from townland to townland, from farmstead to farmstead, stopping for a month or two in each place, getting his board and lodging as an equivalent for imparting instruction to the farmers' sons and daughters. More than one "Poor Scholar," we believe, entered as sizers in Trinity College, and obtained high positions in after life. The struggle for education in Ireland, it will be seen from what we have slightly sketched, was a hard and a chequered one; and only those who have mixed and lived amongst our people in town and village, and sympathised with them, can realise the self-denial of Irish parents in their endeavour to procure a knowledge of the three R's for their children.

The appearance of Father Mathew upon the scene still furthered the cause of education, and paved, to some degree, the way for Sanitary Reform. A large portion of our population were wedded to drinking habits; and what should have been expended in food and clothing was expended in drink. To some extent still, we are sorry to say, this is the case, despite the increased facilities that exist for the obtaining of elementary and even advanced education. The less that is expended upon drink, the less will be the crime; and never will a thorough sanitary improvement be effected until education is more diffused, and better dwellings provided for both the agricultural population and those residing in towns and cities.

We are not here advocating teetotal principles; though, knowing the evils arising from the debasing practice of indulging in habits of intemperance, we are forced to say it would be well for our country if a large portion of our population foreswore drink for ever. The agricultural class cannot afford to spend money in drink, except rarely, without depriving their families of their ordinary sustenance. An indulgence in drink on their part means semi-starvation and rags. The artizan class are in receipt, when employed, of fair wages, and are, consequently, better able to spare money for drink. Were they, however, to act with strict justice to themselves and their families, they would find better and worthier uses for what they often consider their spare money. Moderate refreshment is one thing, but drinking in excess is a different matter.

Unfortunately, there are to be seen in this city, as well as in several other cities and towns, hundreds of mechanics in receipt of good wages, with their children in rags, dirty, and uneducated. Many of our well or fairly-paid artizans are to be found housed in one or two rooms in wretched tumble-down tenement houses, breathing thick pestilential air, with their wives and children constantly frequenting the dispensary. With a healthy home, drugs and pills and other physic might be thrown to the dogs; but the self-abasement of the bread-winner robs him of all moral and physical courage, and drags him down to the

level—we were going to say of one of the lower animals—but animals do not make drunken "beasts" of themselves.

Of the artizans of Ireland, or of Dublin, as a class, we would be sorry to say aught that would injure their character of skilled workmen. Among them there are many workmen indeed of sound practical knowledge, and an intimate acquaintance with all the branches of their respective trades. In the building trades—which are more closely connected with the objects advocated by this journal—there are not a few workmen who are a credit to their craft as artizans, and who can as cleverly set out a piece of intricate framing as they can intelligently discuss a grievance affecting their brethren.

The knowledge of "lines" in constructive carpentry, joinery, masonry, &c., is not the only knowledge that is needed on the part of our practical workmen. There are new "lines" wanting to be set out for the elevating of their characters, and "fixing" their dignity in a position that will look well and square exactly. This is the kind of moral "soffit" that we would like to see elevated.

Let debasing drink be given up—let their homes be improved—let their societies be reformed—let them fix a new starting point, and raise a perpendicular on the line of their departure, and a moral, social, and sanitary uprising in their regard will be manifested.

Workmen of all classes still continue to offer obstacles to sanitary progress and their own advancement. United they are powerful, if intelligence and sobriety guide their counsels; and the least consideration of their position ought to convince them that the capital they covet is in their power to make greater, that they may themselves benefit by its increase. Good workmen and honest service generally make good employers. If for their own interests masters betimes are slow to move, an impetus can be contributed by workmen if they are only true to themselves. Sobriety, intelligence, and skill combined is a powerful lever. Wisely utilised, it can raise a class or a nation. With the decrease of intemperance, education must spread, crime diminish, and public and human health be established, to the great triumph of Sanitary Science.

THE O'CONNELL MONUMENT.

At the last meeting of the O'Connell Committee, held on the 5th inst., a long correspondence which lately passed between Mr. Teniswood, the acting executor of the late Mr. Foley, was read. As we anticipated long since, there is little chance of the monument being finished for a considerable period—indeed Mr. Teniswood mentions within three or four years' time.

In 1871, a writer in this Journal suggested the Centenary Celebration, in view of the completion of the O'Connell Monument by that period. The four years passed over, the celebration was held, but the work of the sculptor was still unfinished; and, more sad to relate, the artist was in his grave. With Mr. Foley's death, the contract was at an end, if the O'Connell Committee liked to stand on their strictly legal rights. The committee, however, are themselves to blame for the long delay. A new agreement has now to be drawn up; and, without describing all the particulars, we may state that the committee propose to make an alteration in the amount to be paid for the statue. The original price to be paid to Mr. Foley was

£12,500 in cash. In addition to the £2,000 formerly received by the deceased sculptor, the committee now propose £10,613 stock. To this Mr. Teniswood objects, on the ground that Mr. Foley, anxious to make the memorial worthy of his native city and of O'Connell, framed his estimate so as to allow but a small margin of profit. It is also shown that the cost of labour and materials has greatly increased since the original contract was framed. Influenced by Mr. Teniswood's detailed statement of the progress of the work and the surroundings, the committee have agreed to halve the difference between Mr. Teniswood and themselves, and raise the value of the stock by about £368. Mr. Teniswood desires the money to be paid by instalments as the work progresses, and the committee assents to pay it in four instalments of £2,000 each, with the proviso that an artist of their choice certifies that the work is performed in a satisfactory manner. At this point difficulties may hereafter intervene, but it is to be hoped not. The committee are anxious to bind Mr. Teniswood to a precise and specified date for the finish of the work; but as Mr. Teniswood's hands seem to be tied and his actions hampered by legal difficulties, the contract or agreement is still an open question. How long this unsatisfactory state of matters will continue, we have yet to wait and learn. After ten years' waiting, it is not pleasant that there might be a possibility of ten more, instead of three or four.

A REMONSTRANCE OF BUILDING OPERATIVES.

A NUMBER of delegates representing, it is stated, several hundreds of carpenters and joiners (but not the members of the old Dublin societies), was held on the 5th inst. in the Mechanics' Institute. The object was for the purpose of adopting resolutions in reference to a pledge which is alleged as at present exacted from certain members of the trade. The subject has already given rise to a correspondence published in this journal, and some remarks upon our part. The chair was occupied by Mr. Samuel Hayes.

Mr. Dooner made a statement to the effect that there were several respectable employers in the city who would employ good workmen who were not members of the regular trade, but that on entering the work they would be requested by the other workmen to pay down £5, and to pledge themselves not to work with any man or boy who did not hold a ticket or pass from this council table.

The following resolutions were severally proposed and carried, the first being moved by Mr. Dooner and seconded by Mr. Joseph Foley:—

"That the exceptional pledge—'I solemnly declare that I will not work with any man or boy who does not hold a ticket or pass from this council table'—which some societies of carpenters in Dublin maintain by the threat of 'strike work,' is injurious to the prosperity of the country, and the intellectual, social, and moral well-being of those who uphold it, and as its existence is calculated to bring Irish workmen into contempt in the eyes of their fellows in other parts of the kingdom, it ought to be abandoned; and that we, the representatives of some hundreds of Dublin house carpenters, hereby pledge ourselves to use every means consistent with the law of the land to procure its abolition."

Mr. Flynn, secretary of the Amalgamated Society of Carpenters and Joiners, moved:—

"That, being opposed to coercion in any shape, and honestly disposed to the maintenance of harmony and good will amongst all members of trade bodies, we beg to submit to those who may be op-

posed to the adoption of our notions of free labour, the advisability of seriously considering our proposal to withdraw the opposition against which thousands of Irish carpenters bitterly complain."

Mr. William Park seconded the resolution, which was adopted unanimously.

On the motion of Mr. Alexander M'Donnell, seconded by Mr. Thomas Mangan, it was agreed:—

"That in the event of our demand being refused by those to whom it is specially addressed, be it resolved that we confidently appeal to the builders of Dublin, all companies and private persons who may need our services, to the Press, and the public at large, to support our cause, which we believe to be just and reasonable."

We will only add at present that the pledge spoken of is a most foolish and pernicious one. The only conditions necessary to secure men employment and unity with their brethren in employment should be efficiency, or a practical and skilled knowledge of their craft. In London and throughout the sister kingdoms unionists and non-unionists work together, and even in times of "strike" the non-unionists go out with their shopmates. We do not blame unionist members for quietly persuading outsiders to join their body; but we are opposed to all acts of coercion and tyranny. A good character and skilled hands should be the only qualification exacted; and if a workman does not possess both, he cannot be considered a good member of his trade or of society apart.

TECHNICAL EDUCATION.

THE LONDON CITY GUILDS.

At a court held of the Painters' Company, one of the city guilds of London, it was moved by Mr. Naylor, seconded by Mr. Deputy Hawtrey, and carried unanimously—"That a first prize of three guineas and the company's silver medal, and a second prize of two guineas from Mr. Naylor and Upper Warden Horrell, be given to the City of London School." It was moved by Mr. London, seconded by Mr. Treasurer Sewell, and carried unanimously—"That a first prize of two guineas and the company's silver medal, and a second prize of one guinea, be given to the City of London Freeman's Orphan School." It was moved by Mr. Naylor, seconded by Mr. London, and carried unanimously—"That the same prize of two guineas and the company's silver medal be given to the City and Spitalfields School of Art, presided over by the Rev. W. Rogers." It was moved by Mr. Nicholson, seconded by Mr. Dilworth, and carried unanimously—"That a first prize of two guineas and the company's silver medal, and a second prize of one guinea, be given to the Commercial Travellers' School." It was moved by Mr. Deputy Hawtrey, seconded by Mr. Trollope, and carried unanimously—"That a prize of one guinea be given to the School of the Wards of Cordwainer and Bread-street." It is difficult, it is said, for the company to get up an exhibition in their hall, but they are nevertheless desirous to promote art in all schools in any way connected with the city.

We have often pointed out in these pages what the city companies, as a whole, in London might and could do in the interest of technical education. Our London contemporary the *Builder* has also repeatedly spoken upon the subject. Had the old city guilds of trade in Dublin been preserved and reformed, it would have been in their power long before this date to have achieved something practical for art and trade. Before their extinction, however, they had become rotten, and perhaps it is as well they should have been swept away. The London city guilds, although only trade guilds in name for long years, preserve their trusts intact, and many of these companies are very wealthy. We are in ignorance, save to some extent, as to what became of the trusts held

by the Dublin guilds. The property held by the majority of them was smuggled, transferred, sold, and divided, and otherwise made away with in a helter-skelter manner before the Irish Municipal Reform Act came into operation. It would be difficult now to trace the channels of its disappearance. It is beyond doubt that, sooner or later, a reform will take place in respect to the City Companies of London. Some few of them are desirous of helping in the cause their names represent, but the great majority are not affording any assistance in the interest of education or art. The existence of the "Irish Society," which is a part and parcel of the London guilds or City Companies, is now threatened; and, if it is dissolved through parliamentary action, the reform of the London City Companies cannot be long postponed. A wise and practical scheme for the reorganisation and working of these guilds is possible, in the interest of the common weal. As at present constituted, they have long outlived their day.

THE NEW POST-OFFICE, CORK.

A DEPUTATION from Cork waited last week upon the Postmaster-General, London, relative to the new Post-office in that city. The deputation consisted of the Mayor, Town Clerk, City Surveyor, Alderman Galvin, Alderman Plane, and Mr. Kennedy. They were accompanied by Mr. Murphy, M.P., and Mr. Downing, M.P. Mr. Murphy introduced the deputation, and pointed out briefly to Lord John Manners their object in waiting on him, and explained the necessity which existed for larger postal and telegraph offices than those contemplated. The Mayor said they were much surprised and greatly disappointed when they saw the plans and specifications for the postal and telegraph offices which are about to be erected in Cork, and they did not conceive that this building was in keeping with the progress of the times. It was, in fact, inferior in point of ornament and elevation to many public buildings in Cork—to the bank, for instance, and even to the corn stores, and to a tobacco store. He thought that, now that the Government money was to be expended, there should be two points borne in mind—the beauty of the building as an ornament to the city, and the convenience of the public. The proposed building did not accord with their tastes in regard to beauty, nor with their ideas on the score of convenience. The stamps must be purchased in Pembroke-street, and you must go round to George's-street to post the letters, where you were not protected from wind or weather. He advocated the purchase of the quadrant between the two streets.

Alderman Galvin pointed out the growing trade of the city, particularly its maritime trade. He also pointed out that Cork was an important military centre. Though the proposed building might be adequate for the present service, he believed it would be quite unequal to the trade of the country ten years hence.

Mr. Plane urged the necessity of deferring the contracts until some alteration could be made in the plans. He also suggested that there should be a large illuminated clock placed in the front of the building.

After a discrepancy which existed between the plans at the Post-office and those at the Cork Custom House was pointed out and discussed,

Lord John Manners said he was sorry that the deputation had come so late, for, as they knew, the tenders had been already advertised, and everything was settled. He was quite taken by surprise to learn that the internal as well as the external arrangements had been objected to by the citizens of Cork. He understood these arrangements had been agreed on by men who were interested in the proper accommodation of the Cork public. It came before him as a matter which had been very much thought over and discussed, and he had understood that the great complaint was the enormous delay which had occurred.

NOTES ON THE EARLY HISTORY OF
THE IRISH STAGE.*

ABOUT the year 1727 Madame Violante came to Dublin, and opened her booth, where her wondrous rope-dancing and the acting of her Lilliputian company excited the greatest surprise and admiration. On a spot where Fownes's-street now stands a large mansion was occupied once by Chief Justice Whitchel. The house, which was well adapted from its roomy size, its spacious gardens, reaching to where Crow-street Theatre stood, was converted by Madame Violante into a commodious booth; and, according to Hitchcock, the enterprising lady, who had been herself bred a very capital dancer, continued to exhibit here for some time with the greatest success.

The public, getting tired of tumbling and rope-dancing, and the proceeds of her booth beginning to decrease, Madame Violante, fertile in invention, transformed the booth into a playhouse, and commenced performing plays and farces. Her first efforts at conquering success not succeeding as she expected, owing to the badness of the actors, she resolved upon forming a juvenile company, or a corps of children; and these she set to teaching herself their different parts, selecting her Lilliputian actors and actresses with discrimination. She perfected them, prepared scenery and dresses, decorations, and brought out the "Beggars' Opera" in Dublin before it was acted on any other stage. The town was taken by storm, and crowded houses for weeks rewarded Madame Violante for her extraordinary perseverance. Of some of the Lilliputian company who originally acted the "Beggars' Opera," Hitchcock mentions "Miss Betty Barnes, an excellent actress, and whom I have often seen play by the names of Mrs. Martin and Mrs. Workman, personated Captain Macheath, the afterwards well-known Master Isaac; Sparks played Peacham; Master Beamsly, Locket; Master Barrington, afterwards so celebrated for Irishmen and low comedy, Filch; Miss Ruth Jenks, who died some years afterwards, Lucy; Miss Mackay, Mr. Peachem; and from the Polly of that day sprung the beautiful, elegant, accomplished, captivating Woffington, to please and charm contending kingdoms."

Margaret Woffington was a native of this city, and of very humble birth. She was born in 1718. Of her father's occupation little is known, some accounts saying he was a bricklayer. Of her mother it is at least known that she was poor and honest, and sold fruit at her stall at the entrance of Fownes's-court. Doubtless, it was while attending her mother that Madame Violante's quick eye caught first sight of the intelligent and sprightly young damsel that afterwards became so famous. For three years, or till about 1780, Madame Violante continued with her Lilliputian company in Fownes-court, when she removed to George's-lane (now South Great George's-street). In George's-lane she continued for some time to exhibit with considerable success sundry entertainments, pantomimes, rope-dancing, tumbling, &c. Later on, we find Madame Violante letting her theatre to Mr. Luke Sparks, Mr. John Barrington, and Miss Mackay (afterwards Mrs. Mitchell), three of her juvenile performers, for £3 a week. Chetwood, in his history, assigns as a reason for Madame Violante thus letting her theatre was that business was declining. The young adventurers who hired the theatre were joined by several others. Mr. Sparks, being the oldest, was appointed manager. Enthusiastic, though poorly prepared, through lack of dresses, scenery, and other requisites, the young company opened with Farquhar's comedy of "The Inconstant; or the Way to Win." The principal parts were thus cast:—Young Mirabel, Mr. Sparks; Duretete, Mr. Barrington; Bissarre, Miss Mackay. For a few

months the audiences were fair, but the novelty soon ceased to attract, and the finances ran low. Benefits had to be resorted to, and Miss Mackay, being the public favourite, took the first. She selected the "Fop's Fortune"; and a number of ladies and gentlemen interesting themselves in her behalf, her house amounted to the "amazing sum of forty pounds." As trifling as this appears in the light of modern events, it was then of such consequence, says Hitchcock, that it occasioned such an alarm to the actors of Smock-alley Theatre that the managers applied at once to the Lord Mayor to interpose his authority to forbid their acting. This the worthy or unworthy chief magistrate readily consented to do. The young actors with considerable difficulty succeeded in obtaining leave to play one night longer, to finish with "Woman's a Riddle." The public looked upon this suppression with much disfavour, and protested against it; and it was the principal cause of giving rise to the building of Rainsford-street Theatre, in the Earl of Meath's "Liberty."

Although it is anticipating events too much, we may say in respect to Miss Woffington, who had left Madame Violante's booth for some years, that she had been engaged in the meantime at Aungier-street Theatre, where she danced between the acts with Mr. William Delemain, Monsieur Moreau, and others. Her first appearance in a striking character on this stage was in February, 1786-7, when she performed the part of Ophelia in Hamlet. Still anticipating events, we will quote what Hitchcock says at this period of the fascinating Miss Woffington:—

"She now began to unveil those beauties and display those graces and accomplishments which for so many years afterwards charmed mankind. Her ease, elegance, and simplicity in Polly, in the "Beggars' Opera," with the natural manner of her singing the songs, pleased much. Her girls were esteemed excellent; and her Miss Lucy, in the "Virgin Unmasked," brought houses. But she never displayed herself to more advantage than in characters where she assumed the opposite sex. Her figure, which was a model of perfection, though free from restraint, appeared in its natural form. One of the first occasions she had to exhibit it was at her own benefit, when she played Phillis in the Conscious Lovers," and the Female Officer in a farce of that name, with great reputation."

In relation to her appearance at a later date on the London Stage, Dr. Doran writes:—
"As if to compensate for the loss of Mrs. Gibber's honied tones, the stage was awakened to a new delight by the presence of Margaret Woffington. The Irish actress made her first appearance at Covent Garden on the 6th of November, 1740, as Sylvia, in the "Recruiting Officer;" and when, a few nights later, she played Sir Harry Wildair, the ecstatic town was ready to confess that, in the new and youthful charmer, they had at once recovered both Mrs. Oldfield and Robert Wilkes. And yet this enchantress—so graceful, so winning, so natural, so refined—had commenced her public career as one of the children who were suspended by a rope from the ankles of Madame Violante, when that wonder of her day exhibited her powers in Dublin on the tight rope."

Further on, we shall have occasion to further allude to Miss Woffington. We will now retrace our steps a little. In 1728 the Dublin Stage was strengthened by the acquisition of Mr. Denis Delane, a native of this country, as his name would indicate. This young gentleman received a portion of his education in Trinity College, and came by descent of a respectable family. His first appearance was under Mr. Elrington, and his reception was favourable. He was young, handsome, a good figure, and had a powerful voice. He possessed indeed most of the requisites of a good actor. Delane continued acting in Dublin with a fair amount of success in different characters until 1731, when, being offered very high terms by Mr. Giffard, of Goodman's Fields, London, he left this city. He was received with great *clat* at Goodman's Fields

Theatre; and, it is said, proved a powerful competitor to the celebrated Quin, who began his theatrical career in Dublin in 1714 under Ashbury. In allusion to Delane's first appearance at Goodman's Fields, Hitchcock writes:—

"It is said that Mr. Quin, sensible of his great merit, prevailed upon him to quit that obscure part of the town, and generously divided the business with himself. This, if true, was a disinterestedness which deserves remembrance. We afterwards find him making excursions to his native country, where he had a small paternal estate, and drawing crowded houses such times in Dublin."

During Delane's time under Elrington, little alteration seemed to take place in the company. In 1731, there was a slight revolt from Elrington's company, in the persons of Mr. and Mrs. Ward, an actor and actress of considerable merit, who, earlier in the year, had taken a benefit at Smock-alley, in the play of "Richard the Third." The seceders took the booth in Fownes's-court, which had lately been vacated by Madame Violante, who had removed to George's-lane. In May, 1731, Mr. and Mrs. Ward had another benefit—"The Double Dealer"—in their new quarters. This opposition did not last long, or do Elrington much harm. The Freemasons' organization in Ireland about this time began to look up in Ireland, and several lodges that had gone down through neglect, were revived, and several new ones established. The Masonic craft in Ireland in the last century as well as in the present were warm patrons of the Drama. It was the custom of the Masonic brethren to devote the profits arising from over-night performances at the theatre every season towards the relief of their distressed or indigent brethren. With more than their wonted zeal, in 1731, they went as far as bespeaking the tragedy of "Cato," a play that was popular at that period. The male characters were all performed by gentlemen Masons. The prices of admission were raised, and yet so crowded and brilliant audiences were not before witnessed in the city. One of the actors of this time on the Dublin Stage was Mr. Griffith, who had the reputation of being an excellent actor. As he was secretary to one of the grand lodges of the Masonic body, and esteemed by the Brotherhood, his benefits were in consequence bespoken by the Grand Master, who accompanied by the brethren, always walked in procession to the theatre. Thomas Griffiths—whom we previously alluded to—was of Welch descent. Misfortune drove his parents to settle in Dublin, where our actor was born in 1680. He received a liberal education, and was bound apprentice to the mathematical instrument trade, at which he did not long remain. Hating his trade, and having a love for the Stage, he married a young actress in the third year of his servitude. This hastened the gratification of his desires. His parents were obliged to purchase the remainder of his unserved time, and young Griffiths was shortly made happy by being permitted to appear as an actor in Ashbury's company at a very low salary. In commencing his dramatic career, Griffiths contracted a friendship with Robert Wilkes, which continued until the death of the latter. Wilkes brought Griffiths from Dublin to London, and secured him an engagement at a low salary. His stay in London was short. Embracing an offer made by Ashbury, he returned to his native city; and here, his abilities having ample scope, he supported an extensive list of characters throughout a number of years with credit and reputation. In 1710 Lord Southwell conferred upon him a lucrative post in the revenue, which he held till his death. Griffiths was small in stature, and Hitchcock says that he used often to ridicule his own diminutive figure, and that in a bill of a mock tragedy of Alexander, he was always advertised thus:—"The Part of Alexander the Great to be performed by Little Griffiths."

There are several humorous anecdotes told of the diminutive Dublin actor, some of which we will relate in our next paper.

* See ante.

OBITUARY.

THE LATE TIMOTHY MURPHY, BUILDER.

WE regret to announce the death of Mr. Timothy Murphy, an old and much respected builder, at Amiens-street, in this city. Mr. Murphy, during the last forty years, was engaged in many extensive building operations in town and country. For long years he was entrusted with most of the building work required by the Messrs. Guinness at their great brewery establishment, and privately. The work of the "restoration" of St. Patrick's Cathedral was given to him by the late Sir Benjamin Lee Guinness, Mr. Murphy's son, since deceased, acting as architect. Several members of the architectural profession at the time protested against the selection of Mr. Murphy, jun., alleging he was not qualified to carry out the work of "restoration." A newspaper warfare was carried on for some time, Mr. J. J. McCarthy, architect, being the principal assailant. Builders and workmen on the opposite side took up the cudgels, and Mr. McCarthy himself was belaboured by a workman who defended his employer and fellow workmen against what he considered the unfair attacks of Mr. McCarthy in depreciating the work. In our back volumes will be found some of the criticisms of Mr. McCarthy upon the artist and other work at St. Patrick's Cathedral, and the rejoinders of those assailed. It was a hot time for "Vandal architects and Gothic critics." We shall not now pronounce an opinion as to the value of the work of "restoration" at St. Patrick's Cathedral. Its shortcomings aside, the munificent act of Sir Benjamin Lee Guinness cannot be forgotten. Mr. Murphy died on Monday evening, having attained the age of 74.

THE LATE TERENCE FARRELL, R.H.A.,
SCULPTOR.

We have also to record the decease, at his residence, Warrington-place, of Mr. Terence Farrell, father of the Messrs. Farrell, of Lower Gloucester-street, in this city. Mr. Farrell was a gentleman highly respected and esteemed.

THE LATE S. F. LYNN, A.R.H.A., SCULPTOR.

THE death of Mr. Samuel Ferris Lynn, A.R.H.A., took place on the 5th inst., at Crumlin Terrace, Belfast. The deceased gentleman (says the *Whig*), who was well known as a devoted art-student, and one of our most talented sculptors, was, during the latter part of his life, resident in London, and had attained to a high position in the metropolis. He executed many statues, relief compositions, and busts, of great merit. Amongst others, the statue of the late Marquis of Downshire at Hillsborough, Lord Farnham at Cavan, and the recently-erected statue of Dr. Cooke in College-square, Belfast. The Prince Consort's statue in the Albert Memorial was also from Mr. Lynn's model. He has also executed many busts of distinguished townsmen of Belfast. Personally Mr. Lynn was one of the most amiably of men, and while his early demise is regretted by his friends, it is a loss to the art world. The *Art Journal*, of December, 1865, in a notice of Mr. Lynn, said:—"Mr. Samuel F. Lynn was early engaged in the study of architecture at Belfast, under his brother, Mr. W. H. Lynn, while, at the same time, he attended the classes in the Belfast School of Design. In this way a taste for modelling was fostered, which led him to think the profession of sculptor would prove more congenial than that of architect—an idea which received encouragement from the fact of his winning prizes offered by two of the patrons of the school, Lord Dufferin and Sir Hugh Cairns, M.P. He, therefore, abandoned the study of architecture, and in 1854 came to London, entered the Royal Academy as a student in the following year, and made such progress that shortly afterwards he obtained the silver medal for a model from the antique. In 1857 a silver medal was awarded to him for the best model from 'life'; and in 1859 he won the Academy gold medal for the best historical composition, the subject given being 'Achilles and Lycaon.' Mr. Lynn exhibited at the Academy in 1857 a life-size statue called 'Reflection'; and in the following year a group of a mother and child, entitled 'Grief.' His next exhibited works at the Academy were in 1860 a monumental relief, and the group for which the gold medal was awarded; and in 1861 statuettes of Ariel and

Psyche. In this year he was elected a member of the Institute of Sculptors. Since then he has been engaged in the execution of various commissioned works of decorative sculpture. Amongst these are a pediment group for the new Provincial Bank, Dublin, and figures for the Criterion; two large subjects in relief, representing respectively Life Assurance and Fire Assurance, for the interior of the new Lancashire Insurance Office, Manchester. During the last two years Mr. Lynn has been assisting his countryman, Mr. J. H. Foley, R.A., in the studio of the latter. Mr. Lynn was successful in obtaining the travelling studentship in connection with the Royal Academy. He was also elected an associate of the Royal Hibernian Academy, where he was a frequent exhibitor. The deceased gentleman was second son of the late Henry Johnston Lynn, Esq., of Fethard, County Wicklow."

THE PROPOSED SCIENCE AND ART
MUSEUM.

WE publish a letter in this issue from Mr. Thomas N. Deane, in reference to the Government scheme for the Royal Dublin Society and the Royal Irish Academy. Mr. Deane is well entitled to a hearing; and we have no doubt but his remarks will receive the attention they are entitled to. In no particular, however, to our comprehension, does Mr. Deane's plea weaken the arguments or reasons adduced by us, or those comprised in the resolutions lately adopted by the Royal Irish Academy. There is something more practical than sentiment in our adverse views to the original scheme for the amalgamation, or rather absorption, of our national scientific institutions, as mapped out in Lord Sandon's letter. We have already expressed our opinions pretty fully; and with the unaltered scheme still before us, our views remain unchanged. In and out of season for years, we have appealed for the extension of Art facilities for Dublin, and a fair proportion of the funds granted by the Government, or available for Art and Science purposes. If fair assistance had been given by past Governments when repeatedly solicited within the last quarter of a century, our institutions would be in a more flourishing condition, and would have displayed greater activity. As it is, the Royal Irish Academy—as may be seen by its last report—has accomplished a very large amount of valuable work. We are not opposed to the Government scheme because it is a Government scheme, but we are opposed to it as it stands, for it directly tends to centralising, controlling, and managing the two of our oldest and most eminent native institutions by a bureau or department outside the country. In fact it aims at more than this, or at least tends to it—the obliteration of all representative native institutions of any worth, *adscriptus glebe* and "racy of the soil." In God's name, let us manage our own institutions, and let the help we are entitled to equally with England and Scotland not be made conditional to the handing over of every heirloom or memorial we prize. We are losing our native language fast—let not our public spirit and patriotism (we do not speak politically) disappear along with it. Once more we say that we do not think it would be advisable that the Royal Irish Academy should amalgamate with the Royal Dublin Society. Apart, the interests they both represent will continue to be better served. With an increase of members and an increase of grants, both societies can further improve their departments. We earnestly hope, indeed, to see the formation of a great School of Art in Ireland; and the Government can afford Dublin assistance in carrying it out independent of their present scheme. One of the oldest members of the Royal Irish

Academy, and, we believe, its president for some time, was Lord Charlemont, of Volunteer memory. We would commend his saying at this juncture, when Irishmen are asked to hand over the direction of their native institutions to departments outside their country—"IRELAND SHOULD BE SERVED IN IRELAND."

THE ROYAL IRISH ACADEMY.

THERE was a general meeting of the Academy at their House, Dawson-street, on Monday evening, Sir Robert Kane, V.P., in the chair. Dr. E. P. Wright (secretary) read the following letter from Thomas Carlyle:—

5 Cheque-row, Chelsea,
28th March, 1876.

SIR,—About a week ago I received the agreeable and most unexpected announcement from you that I had been elected an honorary member of the Royal Irish Academy, an institution which I have always much respected. To this, your official announcement, there was added on another sheet some extremely kind words in your private capacity, from which also I derived satisfaction, and beg to thank you accordingly. By this morning's post there arrived, accompanying your second note, the official diploma or certificate of my election; and it now only remains that I request you to express to the gentlemen members who have done me this conspicuous honour my grateful sense of their kindness, and my loyal feeling towards the institution of which I am henceforth a member. Some five-and-twenty years ago I passed a very pleasant and instructive day in your museum, and do not remember that I ever had so much satisfaction on any visit to a similar collection. Regretting only that I am now too old to assist in your labours at all except by good wishes, if there could lie the least help in these, I have the honour to remain, yours sincerely,
T. CARLYLE.

Also the following letter from Miss Stokes:

Merrion-square, North,
Dublin, March 25th, 1876.

SIR,—I beg to acknowledge the receipt of your kind letter, conveying to me the intelligence that the Academy has done me the favour of electing me an honorary member of their body. It is needless for me to add how deeply sensible I feel of the high honour thus extended to me, and how grateful I am for the spirit of kindness which prompted this act. Pray convey to the members of the Royal Irish Academy the expression of my deep obligation and assurance that I shall continue to make every effort in my power to help forward the cause in which they have been so good as to enlist me.—I beg to remain, yours respectfully,

MARGARET STOKES.

Letters expressive of thanks for having been elected members of the Academy were also read from the Rev. W. Stubbs, M.A., Oxford, author of the "Constitutional History of England;" Ernest Haeckel, of Jena; C. W. Borchardt, of Berlin; Alphonse de Candolle, of Geneva; and E. Bertrand, of Paris.

A paper on "Quartzite and Quartz Rocks," by Mr. G. H. Kinahan, was, in that gentleman's absence, read by the secretary.

Mr. R. J. Moss read a report on explorations of Ballybetagh bog conducted by him last summer. This bog is situated on the west side of the Scalp, about seven hundred feet above the level of the sea, and the site of it is believed to have been once a tarn or lake. Within a limited space, and at a depth of about five feet beneath the surface of the bog, Mr. Moss discovered the remains of about 50 of the cervus megaceros, or great Irish deer. These consisted almost exclusively of heads and antlers, only a few other bones being amongst the collection, and there was no complete skeleton. On the table was a splendid specimen of a head and antlers, measuring eleven feet across.

Dr. Wright read a paper by Dr. Doberck, "On *α Leonis*, considered as a revolving double star."

Professor Emerson Reynolds read a "Preliminary note on the specific heat of glaucinum."

The following were elected members:—Francis E. Clarke, M.D.; Michael F. Coxe, M.D.; Rev. John Grainger, D.D.; Rev. Wm. McIlwaine, D.D.; Walter Myers, Esq.; and G. Gerald Tyrrell, Esq.

LECTURES ON ARCHITECTURE.*

(Continued from page 95.)

We have, however, to consider the other phases of his existence. An architect cannot be always indulging his taste for natural beauties. His art must lead him to the busy haunts of men, and there it will be chiefly exercised.

The gregarious instincts of mankind have ever led them to assemble themselves in cities. In early times of unsettled government the guarantee of mutual safety supplied an obvious motive; with us the claims of business constitute an inducement of no less strength. You all know the wonderful growth of London and other large towns, both here and in America.

Now this growth is but too often a matter of very mixed satisfaction. The architect has too few opportunities of guiding it, and mistakes are made which are irrevocable, and entail injurious consequences of more or less serious import.

It is not of much use to rail at great cities as monsters and abominations. This world of ours, as it advances in years, must of necessity become more crowded, and men will congregate in cities, for powerful reasons, against which objectors are impotent.

I think we should be on our guard against falling too readily into a spirit of general discontent. This is a tendency to which our countrymen are, perhaps, somewhat specially prone. We see very clearly evils which are before us. This is a good thing, for it is the first step towards a remedy. But we do not always allow so readily for advantages more or less counterbalancing the grievances of which we complain. Thus we are most of us painfully alive to the mischief of overcrowding in our large towns, but we may not always be aware of the gains of various kinds, as well intellectual as physical, to be achieved by the power of association and co-operation.

We sometimes hear complaints that good honest work is more rare than formerly in this country, but this can scarcely be admitted. Thousands now demand to be supplied with articles for which hundreds were lately the customers. The few good things are still to be obtained, but they are merged in the sea of mediocrity, and the rising value of labour in the present day makes good work more and more costly.

Nevertheless, it must not be readily conceded that man cannot do now what he once did, for to grant this would be to deprive us of all heart in our work. We must, as architects, accept the conditions under which our exertions are possible; and, however dispiriting the aspect of things external may at times appear, we may be sure there is a task for us to do, if we will but seek it, and that, seeking it, we shall find great objects to accomplish, and "good in everything."

Assuming, therefore, that large towns are a necessary concomitant of modern civilisation, what can architecture do for us in respect of them? Let us consider this.

In a simpler state of society, the duties of the architect were necessarily simpler also. He had space and labour more at his command than at present. The urgent demands of sanitary science did not perplex him. He was more able to devote himself unreservedly to the æsthetic side of his calling.

The traffic in the streets gave him little trouble in laying out the general plan of a town, if he were called on to do so, and he had definite traditions on which to proceed. With us it has become a necessity for the architect to combine with his art no inconsiderable amount of science, to guide him in the constructive or engineering portion of his duties.

The great architectural monuments of the past have been for the most part the work of the enlightened few—the rich and powerful who pressed architecture into their service. For their purposes grandeur was everything, and their beauties of architecture were valued by them as adding a fresh glory to their

magnificence. The poor might live in hovels, but there must be splendid palaces and stately temples. We have now to take into account a different state of things. Great opportunities may hereafter occasionally arise for the architect; but, for the most part, he must prepare himself to take advantage of more numerous opportunities of smaller things; and in these architecture will have to justify herself by combining beauty of art with a full recognition of utility.

Some have considered that there should be a complete separation between the æsthetic and scientific branches of our art. The adoption of this theory would lead to the employment on each architectural work of two authorities, and there would be no small risk of the dangers which wait on divided counsels. There would also, I think, be a tendency on the part of the architect, no longer controlled by constructional necessities, to drift into a dreamy unreality opposed to the practical character of good architecture.

We need not dwell much upon the other aspect of this question, for our engineers have too often considered themselves free to disregard beauty, and we know the result.

Some have proposed, as you are aware, that everything be left to the individual workmen, on the principle, I suppose, that out of chaos order must of necessity spring. I need not trouble you now with this theory, as it has recently been discussed, and found inadmissible.

I do not think it would be a hopeful plan to release the architect from his constructional responsibilities, and it appears to me that the severance of architecture from engineering has been an artistic misfortune. It was not always so. The appearance of our public works was thought of, as well as their utility, in days not long gone by.

You remember, I dare say, the discussions which arose last autumn about widening London Bridge. I must not plunge with you into the controversies which that discussion aroused, but I may notice in passing that each party to it expressed a high admiration for the design of the existing bridge. This was the work of Rennie, a distinguished engineer, and one not blind to architectural beauty. Now, a bridge is primarily a utilitarian structure, but you may see by this instance that for such works there is scope for architectural art.

When it was built iron was far from being as familiar to our constructors as a building material as it is at present, and, if we are to judge by recent practice, the days of stone bridges of large span are gone. We have seen Westminster and Blackfriars bridges constructed of iron, and the railway engineers have adopted the same material for similar structures.

However we may raise the question of respect for the work of Rennie, there is no doubt that those who lately proposed to use the readiest means of enlarging the bridge were but following the traditions of mediæval times, when each new style turned impatiently from its predecessor, and Norman masonry was concealed without a scruple behind casings of later work. There can be little doubt that a mediæval architect, engaged on a work which was mainly one of utility, would have used, as a matter of course, such materials as appeared to him most suitable and economical for the purpose in hand.

It is satisfactory to note the enthusiasm for the design of London Bridge, latent though it may long have been. Any such manifestation of public interest in our architecture is most welcome to the artist; but, while it is not desirable to discuss the merits of a contemporary design, it is allowable to point out that a respect for a work of yesterday may be pushed too far, if it is considered to forbid the application to purposes of public convenience of the increased scientific knowledge which time has brought with it. Our interest in the art of the past gains much from our conviction that it was perfectly truthful, and that we may rely upon it as a complete exemplification of the practice and

skill of the day. If our work is ever to be regarded with similar interest in the future, it must be founded upon similar principles.

As affecting the question of the separation of the architect's duty into two independent parts, it should not be forgotten that our greatest public works are likely to possess more or less of a utilitarian character. With the increased influence of the many on public affairs, we may expect to see greater attention paid to problems hitherto more or less neglected. The time is past when the State was the only patron of art, and employed it to minister to its own magnificence.

If you will recall to your memory some of the principal London improvements of the last few years, you will understand my meaning. With the exception of some few public buildings, almost all the works of our time which have left an enduring mark on the face of the metropolis have been carried out by associations and companies distinct from the Imperial Government.

We have been speaking about bridges. Of those over the Thames, I think Westminster Bridge is the only contribution of the State; Blackfriars Bridge has been rebuilt by the Corporation of London, and numerous iron bridges have been constructed by the railway companies. The Thames Embankment has been carried out by the Metropolitan Board of Works, who have also given us some valuable street improvements, besides a new system of drainage.

In these great undertakings there has been scope for architectural art far wider and more important than private patrons could give. We have all of us an interest that considerations of artistic effect should not be merged in utilitarian exigencies. If the architect as an artist is to be separated from the architect as a constructor, I very much fear that it is the former who would go to the wall. To avoid this misfortune, I would deprecate a policy which might lead to so unfortunate a conclusion.

It does not, of course, follow that an architect must of necessity be as great a master of all the newest modes of construction as an engineer now claims to be. The applications of special science are so varied and extensive that we must of necessity have need of experts to be called to our aid, as extraordinary circumstances may require.

It is a mistake to suppose that anything is so entirely utilitarian in its purpose that appearances may be neglected. Even sewer works require buildings and tower-like chimneys, which become landmarks. Our waterworks, beside similar requirements, may exercise the taste of their architect in bridges, enclosures, and the like. Railway stations may ornament or disfigure the quarter in which they are placed. River embankments give abundant opportunities to the architect, not only with regard to their own details, but also as to the larger question of building along their quays, and laying out the adjacent grounds to the greatest advantage.

In the interest of art, we must not surrender all those opportunities. The public mind is, I think, more alive to them than it has been, and it is to be hoped that its interest will thrive and strengthen.

For the architect to be able to claim and occupy his proper position, he must be prepared to link himself heartily with the improver. A mere dilettante application of favourite details will not be enough; he must enter into the spirit of the work to be done, and must be prepared to submit his ideas to the arbitrament of reason. Far from thinking there is any degradation of his art in such a course, he will have the happiness of feeling that he is assisting her to claim her highest glory, that of ministering to the public good.

We conclude, therefore, that the architect should remain, as he always has been, an artist and a constructor; that his mission is to design with beauty—to build with truth. If he can do these, he will find plenty of room for the exercise of his powers, even in these days, so often described as purely utilitarian.

* By Professor E. M. Barry. Delivered at the Royal Academy, London.

If allowed to advise for the first, he might prevent many an error, found afterwards (and too late) to be irremediable. The planning of new streets, for example, is a matter of the greatest importance. The best laid-out thoroughfares in London are no doubt Regent-street and its accessories. They are well worthy of your consideration as you walk along them, from Charing-cross to Portland-place. They were of course designed before the traffic had become what it now is. The architecture of the houses is not in accordance with prevailing taste; but I am not asking you either to admire or criticise it. I do wish, however, to call your attention to the care and design shown by the general scheme, and we may remember with some satisfaction that it was the work of an architect.

You may easily point a contrast if you will examine some more recent examples of new streets, with their unpleasant angles and unstudied curves. Such streets may be convenient, but they will never add to the beauty of our cities.

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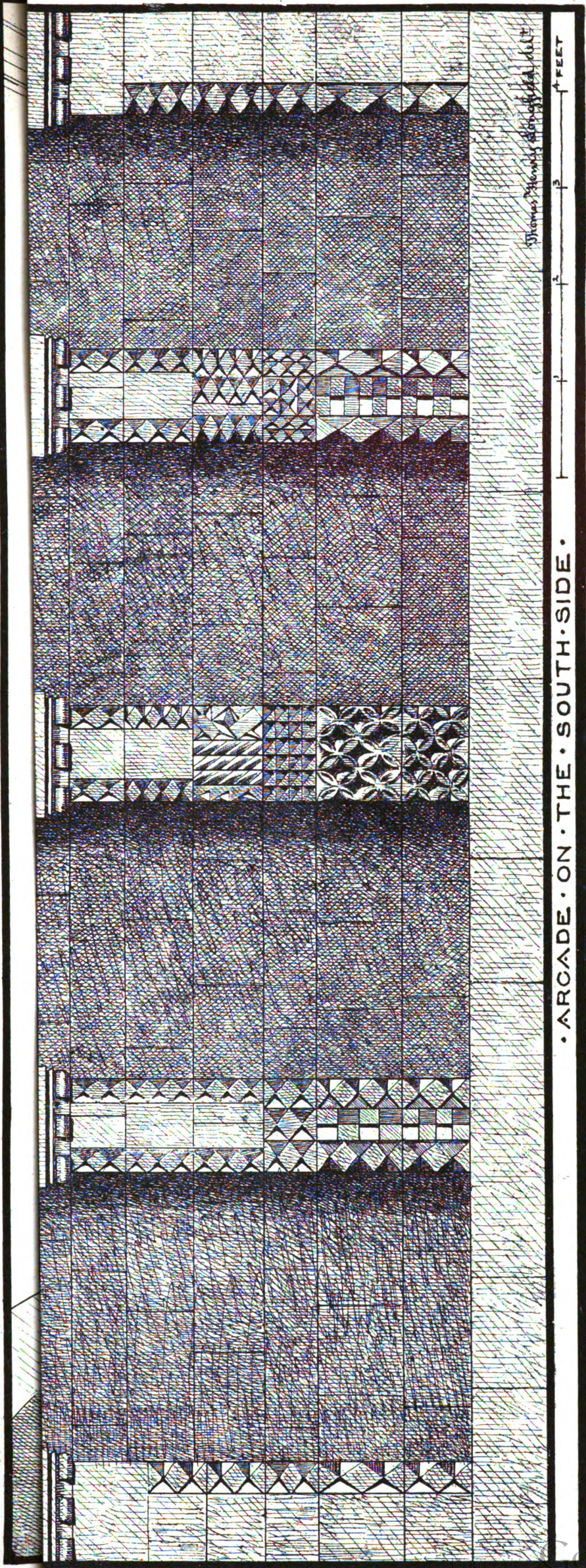


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necessity, and an impetus is given to the production of all those shams and cheap finery which seek to pass off dross for gold.

How will all this affect our architecture? I fear that there is but one possible answer, if things are to remain as they are.

Much has been said of the advantages to the householder of moderate means of having his dwellings constructed in flats, in large buildings. Hitherto, however, little has been done in this direction, except for the two classes at either end of our social system. The experiment of such buildings for those of whom I am now speaking has yet to be tried, at least upon any large and sufficient scale.

Accustomed as we are to a different system, the change is difficult, and attended with some disadvantages, which it is needless to dissemble. There are doubtless some objections to the flat system, such as its defective privacy, and compulsory association to a greater or less degree of possibly discordant elements. But it may be pointed out that in the principle of association is almost the only hope of those whose wants we are now considering.

Other circumstances being equal, a combined dwelling must offer economical and other advantages, which are becoming daily more difficult to obtain under the separate system.

To architects belongs especially the study of this question, and I commend it therefore to your notice. The same principle of co-operation which has given us our palatial clubs, and which, still more recently, has cheapened to thousands the price of the necessities and elegancies of life, must, as it seems to me, be sooner or later applied to our dwellings. The prospect is not without hope for the architect, and I advise him to qualify himself betimes for dealing with it.

We have seen a remarkable revival among our cultured classes for music and art. Never before have pictures, porcelain, or other artistic productions been more appreciated. Let us hope that our revival of architecture will not spend itself in our palaces and public buildings, but that it may extend to the homes of the poor and the thousand wants of every-day life.

And now it is time to bring to an end this, I fear, too discursive lecture. Let us recall the conclusions at which we have arrived. First, we have seen that we may go to Nature for inspiration, not to carry out direct imitation, but to study her principles and modes of action. Let us ponder well on the mingled beauty and utility of her simplest productions. Let us learn from her simplicity and truthfulness. Armed with these principles, we are to apply them to the practice of our art. We are not to seek to astonish by eccentricities; but, on the contrary, are to proceed to solve the problems submitted to us with a taste chastened and controlled by common sense.

Having so prepared ourselves, we have to apply our knowledge for the good of others. If architecture as an artificial art leads us into the midst of great cities, with their often depressing associations, it is our duty to study carefully the conditions under which our art becomes available. We may often find at work below the surface causes of action at first sight little expected, but against which no efforts of ours will prevail. In such cases we may guide where we cannot drive, and may make the refining influence of art felt in movements which owe their origin to social causes far beyond our control.

If such things are difficult, that is only a reason for unflagging exertions. The architect must not give up a question because it is not easy to solve it, any more than a soldier may desert his post. His influence, properly exerted, will readily increase, and will spread upwards as well as downwards. To render it effective, it is necessary to unite science with art, so that every one may be convinced that in seeking the graces of the one he will not be called upon to surrender the solid advantages of the other. The architect must be chary of declaring that the requirements

of convenience are not to be satisfied out of regard to æsthetic considerations; he must rather consider it his task to reconcile the one with the other.

In our large towns we have seen that he may find scope for his art in many ways—in laying out streets, devising improvements, and constructing bridges, as well as in planning separate structures. In his designs for the dwellings of all classes, he must keep steadily in view the requirements and circumstances of those who will be their inmates; and it must be his pride, not to force their habits into unison with his preconceived ideas of architectural propriety, but rather to apply his art to their necessities, and add a beauty to the exigencies of utility.

So shall architecture remain a living art, "a thing of beauty, and a joy for ever," the chosen companion of science, the handmaid of religion, and the pioneer of the social and moral improvement of the people.

ARCADES: CORMAC'S CHAPEL, CASHEL.

THESE arcades (of which we give a double-page illustration) are about the most curious pieces of detail to be found in this very interesting building. This drawing was made by Mr. Longfield from measurements and sketches taken some years since. The different manners of notching on the stones are very carefully noted. The position of these arcades in the building can be seen on referring to Mr. A. Hill's excellent Monograph of the building.

HANDICRAFT AND HANDICRAFT TOOLS.

(Continued from page 96.)

ON TOOLS WITH CUTTING EDGES.

TOOLS with cutting edges are not only numerous and varied in form, but they are also varied in the purposes for which they are formed, and in the mode of using. Hence no very precise statement of what is generally meant by a "cutting edge" can well be given. Three classes, however, of such tools may be marked out, and into one or other of these it is probable all those tools which can properly be defined as tools with cutting edges may be arranged.

A first class will comprehend tools which meeting the work at a particular angle continue the path of each portion of the edge in the same straight line. Axes, adzes, gouges, chisels, and planes (as ordinarily used by carpenters) belong to this class. Such tools are brought into action either by impact or by direct thrust. The adaptation of machinery to tools in this class is easy, because the cutting edge has to describe only a straight line, and this done once, if the place of application be removed, a repetition of impact or thrust in the same direction will suffice.

A second class will comprehend tools which, whilst as a rule retaining the angle at which they are applied to the work, the path of any portion of the tool is not a straight but a curved line. Tools of class 2 are seldom acted upon by direct impact or simple thrust. To adapt them to machine work requires either a compound motion in the tool, or a motion compounded of the tool and work. When used as handicraft tools, this compound motion is derived from the muscular actions of the body of the workman, or the mechanical contrivances of construction in the tool. Knives, shears, razors, and saws belong to this class. And to this class belong those tools in which what are mechanical contrivances for causing a "draw cut" is introduced, *e.g.*, certain garden and pruning shears, also hay and bread-cutting knives. There is a motion in the human jaws which gives to the cutting teeth this "draw cut," and so they separate what is between them as draw cut scissors might do.

Indeed, all tools in this class operate most efficiently when acting upon the "draw cut" system.

Hence, whilst certain of the human teeth belong to class 1, others belong to class 2. The contrivance in the joining of the lower jaw to the upper in man is a compound one, adapting itself to three motions, one or other of which is found in many tools. There is up and down motion, enabling certain of the teeth to cut meat as nippers do. There is also a backward and forward motion, producing a saw or file-like operation, and there is a lateral or side motion, producing such a result as that of grinding. It is probable that from observation on the action of the teeth, the "draw cut," so essential to the perfection of tools that really *cut*, has been suggested.

Class 3 will comprehend those tools in which rotation is more usual than rectilinear motion. The tools in this class are constructed on principles allied to those in the two former classes. All drilling and boring tools belong to this class.

The action of tools with cutting edges in class 1, being the most simple, had better be first considered. As axes and adzes belong to this class, and as the structure of habitations probably led our ancestors to the formation of tools, doubtless that form of cutting instrument which most commended itself to these primitive artificers would be the first to be constructed. Passing by the very early form, we may commence with a consideration of the edge of the axe or adze, when that edge became part of a constructed implement and not a mere piece of sharp edged flint. The construction essential to the tool is a handle, or, as it is called, a "helve." The shape of this helve, and the mode in which the head or metal of the axe is attached to it, are well worthy of some preliminary attention.

Perhaps here may be drawn the distinction between narrow and broad axes and hatchets. Axes are tools to be used with both hands; they have long handles, and may be swung as sledge hammers. Hatchets are to be used with one hand, have short handles, they are much lighter and thinner than axes, and are employed more in the trimming than in the hewing of timber. Both narrow and broad axes are employed in forestry, the woodman's choice being affected by the size of the timber and the character of the fibre. A hatchet is handled with the centre of gravity nearer the cutting edge than the line of the handle; an axe with the centre of gravity in the line of handle produced. Of this, however, more hereafter.

The mode of attaching a handle to an axe in the bronze age is very instructive to us. The illustrations in the room are suggestive enough, and need only a passing remark. It will be observed that for the purpose of handling, some of these axes are socketed, others wedge-pointed. The socketed ones were evidently handled as we handle socketed chisels. There is, however, one peculiarity, and that worthy of consideration. These bronze hatchets have in many instances a semicircular, ring-like projection, the object of which was for a long time a puzzle, but the suggested mode of handling the implements, if correct as seen in the diagram, points to a knowledge of directions of tension and of pressure, which engineers at the present day cannot but admire. If any one has ever struck a common hatchet to any great depth into timber, and carelessly endeavoured to loosen it by raising the extremity of the handle, he may have found the handle separate from the metal near the junction of the two. Now the withy, or lashing shown in this bronze instrument, has been put as we should put it at the present day, in order to strengthen the connection at this, the weakest part.

When we pass from the tool and its contrived handle to the mode of using, and the purpose for which it has been constructed, we find, as a rule, a cutting edge formed by two inclined surfaces meeting at an angle, the bisecting line of which passes through

the middle of the metal. It is very apparent that the more acute this angle is, the greater, under the same impact, will be the penetrative power of the axe into the material against which it is driven. This supposition very soon needs to be qualified, for suppose the material offers a great resistance to the entrance of this edge, then the effect of the blow, upon the principle that action and reaction are equal, will re-act upon the edge, and the weakest, either edge of axe or object struck, must yield. Here then primitive experience would be obliged to qualify the simple tool in which the edge was keen and acute, and would naturally sacrifice the keenness and acuteness to strength.

When early uses of the axe are considered, it will be noticed that even in fashioning with an axe or adze the same piece of wood, different conditions of edge are requisite. If the blow be given in the direction of the fibre, resistance to entrance of the edge is much less than in the blow across that fibre. So great, indeed, may this difference become, that whilst the axe in class 1 seems in all respects a suitable tool, yet as the attention of the workman passes to directions inclined to the fibre at an angle of more than 45° , he will be induced to lay aside the tools in class 1, and try those in class 2; for he will have found that whilst in the one direction of the wood the edge of his axe continues sound and efficient, yet a few blows on the same timber at right angles to this direction has seriously damaged the perfection of the edge, whatever may be the angle at which the faces meet which constituted the edge.

These remarks apply only to tools used in dividing materials, and not to tools used in preparation of surfaces of materials. This preliminary consideration prepares us for the different circumstances under which these two classes of tools may be respectively used. And as the contrast of the effect of the same tool under different circumstances in the same substance is considerable, great, also, is likely to be the contrast between the edges of the tools and the manner of using them, e.g., the axe, which is the proper tool in the direction of the fibre, is operated upon by impact, whilst a saw, which is the proper tool across the fibre, is operated upon by tension or thrust, but never by impact.

The mode in which the axe is used will explain why it is unsuited for work across the fibre. The axe is simply a wedge, and therefore arranged to cleave, rather than to cut, the wood. Now a calculation of the pressure necessary to thrust forward a wedge, and the impact necessary to cause the same wedge to enter the same depth, would explain (as in the lecture on Hammers) why (regarded as a wedge only) the handle proves an important adjunct to the arm of the workman. Anyone may test this by using an ordinary-handed hatchet on a soft, straight-grained wood, or he may take a small axe with a straight and not a curved edge; let it rest upon a lump of moderately soft clay. Add weights until it has sunk to any decided depth, then take the axe by the head, and by pressure force the edge to the same depth. Next hold the axe by the handle, first at, say 1 ft. from the head, then at 2 ft., then, perhaps, at 3 ft., and give blows which seem of equal intensity, and mark the depth. Thus a practical testimony to the value of a handle will be borne by the respective depths.

A few words about the motion of the hands and the handle they grasp; and then a consideration of the curves given to the cutting edges of axes, adzes, &c.; also to the wedge-like sections of the edges. These will be all that can now be considered.

The motions of the hands on the handle of an axe are similar to those of a workman on that of the sledge hammer. The handle of a properly handled axe is curved, that of a sledge hammer is straight. For present consideration this curvature may be overlooked, although it plays an important part in the using of an axe with success and ease. If the almost unconscious motions of a workman skilled in the use of an axe be observed, it will be noticed that whilst the hand

furthest from the axe-head grasps the handle at the same or nearly the same part, the other hand, or the one nearest to the head, frequently moves. Let us follow these motions and consider the effect of them. The axe has just been brought down with a blow and entered between the fibres of the wood. In this position it may be regarded as wedged in the wood, held in fact by the pressure of the fibres against the sides of the axe. From this fixity it must be released, and this is usually done by action on or near the head. For this purpose the workman slides his hand along the handle, and availing himself (if need be) of the oval form of the handle after it has passed through the eye of the metal, he releases the head. The instrument has now to be raised to an elevation; for this purpose his hand remains near to the head, so causing the length of the path of his hand and that of the axe-head to be nearly the same. The effect of this is to require but a minimum of power to be exerted by the muscles in raising the axe; whereas if the hand had remained near the end of the handle most distant from the head, then the raising of the axe-head would have been done on what is called a mechanical disadvantage. Indeed, if a workman will notice the position of the hand (which does not slide along the handle) before and after the blow has been given, he will find that its travel has been very small indeed. Remembering that the power exerted to raise a body is in the inverse ratio of the spaces passed through by the body, and the point of application of the power, it may thus be obvious how great a strain will be on the muscles if the axe-head be raised by the hands at the opposite extremity of the handle. Reverse the problem. Take the axe-head as raised to such an elevation as to cause the handle to be vertical (we are dealing with ordinary axes, the handles being in the plane of the axe blade). Now the left hand is at the extremity of the handle, the right hand is very near to the axe-head—the blow is about to be given. The requirement in this case is that there should be concentrated at the axe-head all the force or power possible; hence to ease the descent would be as injudicious as to intensify the weight of the lift. Consequently, whilst with the hand nearest to the head (as it is when the axe reaches its highest elevation) the workman momentarily forces forward the axe, availing himself of the leverage now formed by regarding the left hand as the fulcrum of motion, he gives an impulse, and this impelling force is continued until an involuntary consciousness assures him that the descending speed of the axe is in excess of any velocity that muscular efforts can maintain. To permit gravity to have free play, the workman withdraws the hand nearest to the head, and sliding it along the handle, brings it close to the left hand, which is at the extremity of the handle; thus the head comes down upon the work with all the energy which a combination of muscular action and gravity can effect. The process is repeated by the right hand sliding along the handle, and releasing as well as raising the head.

The form of the axe handle deserves notice, differing as it does from that of the sledge hammer. In the latter it is round or nearly so, in the axe it is oval, the narrow end of the oval being on the side towards the edge of the axe, and more than this the longer axis of the oval increases as the handle approaches the head, till at its entrance into the head it may be double what it is at the other extremity. It often has also a projection at the extremity of the handle. The increasing thickness near the head not only gives strength where needed, as the axe is being driven in, but it also supplies that for which our ancestors employed the thongs. There is, too, this further difference—in a sledge hammer more or less recoil has to be provided for, and the handle does this; in the axe no recoil ought to take place. The entrance of the axe edge is, or ought to be, sufficient to retain it, and the whole of the energy resulting from muscular action and

gravity should be utilised. The curvature, too, of the handle is in marked contrast with the straight line of the sledge hammer handle. The object of this curvature is worthy of note. In my hand is an American forester's axe. The handle is very long and curved. If laying the axe handle across my finger where the head and handle balance, I place the blade of the axe horizontal, you may notice that the edge does not turn downwards, in fact the centre of gravity of the axe-head is in the horizontal straight line prolongation of the handle through the place where my finger is. Now in sledge hammer work the face is to be brought down flat, i.e., as a rule, in a horizontal plane. Not so with the forester's axe, it has to be brought down at varying obliquities. If now the hewer's hand had to be counteracting the influence of gravity, there would be added to him very needless labour, hence the care of a skilled forester in the balance of the axe-head and the curvature of the handle.

We must now consider the form of the cutting edge as seen in the side of the axe. It is often convex. It will be noticed that the cutting edge in each case is curved. The object of this is to prevent not only the jar and damage which might be done by the too sudden stoppage of the rapid motion of the heavy head in separating a group of fibres, but also to facilitate that separation by attacking these fibres in succession. For, assuming the axe falls square on its work in the direction of the fibres, a convex edge will first separate two fibres, and in so doing will have released a portion of the bond which held adjoining fibres. An edge thus convex, progressing at each side of the convexity which first strikes the wood facilitates the entrance of successive portions from the middle outwards. If the edge had been straight and fallen parallel to itself upon the end of the wood, none of this preliminary preparation would have taken place; on the contrary, in all probability there would have been in some parts a progressive condensation of fibres, and to that extent an increase in the difficulty of the work.

The equally inclined sides of the wedge-form of edge hitherto alone described as belonging to axes, and the equal pressure this form necessarily exerts upon each side if a blow is given in the plane of the axe, suggest what will be the action of an axe if the angle of the edge is not bisected by the middle line of the metal. Assume that one face only is inclined, and that the plane of the other is continuous to the edge, then let the blow be struck as before. It will be obvious that the plane in the line of the fibres cannot cause any separation of these fibres, but the slope entering the wood will separate the fibres on its own side. Supposing a hatchet sharpened as previously described, and one as now described, are to be applied to the same work—viz., the cutting from a solid block the outside irregularities—say to chop the projecting edges from a square log and to prepare it for the lathe. It may be briefly stated that the hatchet described in the second case would do the work with greater ease to the workman, and with a higher finish than the ordinary equally inclined sides of the edge of the common hatchet.

(To be continued.)

WORKING MEN IN NEW YORK.—The *New York Times* states that a recent careful investigation into the condition of the labour market in that city shows that the mechanical industries have not recovered from the depression caused by the financial panic of 1873. "The trade unions now number only about one-third of their total strength three years ago. This is specially to be seen in the building trades, the societies in 1873 numbering over 10,000, while at the present time the number on their rolls in good standing is not much above 3,000. In 1873 the various unions had 48,180 members, while at the present time they contain less than 18,000, of which 3,790 are out of employment. A careful estimate of the workmen outside of trade organisations shows the probable number to be 58,350, of whom 21,420 are idle. The plumbers, gasfitters, painters, and those engaged in the building trades appear to have suffered most."

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

Of late years the question has cropped up, to be agitated and again cast aside, whether it would or would not be advisable to pay wages to members of parliament. It was customary some centuries back to do so; and the custom existed in Ireland as well as in the sister kingdom down to a period a little over two hundred years since. As we have not space for a lengthened detail in our notes, we will content ourselves with citing an instance or two. In the 50th Edward III., a writ to James Botiller, Justiciary of Ireland, directs that *rationabiles expensæ* should be paid to the commissioners who were elected by shires, cities, and boroughs to attend the English Parliament. The amounts, considering the circumstances of the case, must have been great. In a record, the wages, or fees, as they were called, of a knight of the shire in 1613 is put down at 13s. 4d.; for a citizen, 10s.; and for a Burgess, 6s. The following is an extract from list of Irish members, and the sums due to them for their duties at that session:—

For Armagh County, Sir Toby Caulfield (the ancestor of the Earl of Charlemont) and Francis Annesley, £130 0s. 5d. For Armagh Borough, Mark Usher and Christopher Conway, £99 6s. 8d. For Carlow County, George Bagnal and Morgan Kavanagh, £198 13s. 4d. For Dublin City, Richard Bolton and Richard Barry, £149.

In November 1614 an order respecting fees to members was made, and is recited in the following order, issued by the House of Commons, 15th May, 1615:—

“Whereas, by an order of the House made last session of parliament, every knight of a shire was allowed 13s. 4d. per diem from the country during his attendance in parliament; and every citizen of any city, being a county in itself, 10s.; and every Burgess, 6s. 8d., which were then rated so high for diverse considerations, their seeming good to the House. But now, the House entering into further consideration, does think fit to order that, during the present session of parliament, for ten days before and as many after, every knight shall be allowed but 6s. 8d., every citizen, 5s., and every Burgess, 3s. a-day. But nevertheless, when any agreement is made for any more than by this order is set down, the same overplus more than this order is to be duly paid, according to their agreements; and so, if for less, then less to be taken, anything before in this order contained to the contrary notwithstanding.”

The Commons' Journal of the 11th of May, 1615, shows that a warm discussion took place between the Lords and Commons as to the rate of wages, and respecting those who should contribute and those who should stand exempted. After conference and some unpleasantness, the parties separated without coming to any agreement. Some four days after a grand committee sat, and it was settled:—“That all lands, as well in fee as chargeable, should be contributory to knights' wages, as in former times they have been, except the ancient possessions of lords spiritual and temporal, whether they be in their own hands or in the occupation of their tenants at will, or sufferance, and their leases for years in jointure; and dowries of ladies dowagers. But if they have acquired or purchased any lands, sythence, or passed any lands away in fee-farm, or in tail, these lands to be likewise contributory. Glebe lands not to be charged.”

In August, 1634, the Commons confirmed the old fees first mentioned to members; but in 1640 it was reduced 10s. for the first, 7s. 6d. for the second, and 5s. for the third. In 1662 Sir John Ponsonby reported the result of the committee appointed to consider former precedents respecting the wages of knights, citizens, and burgesses in parliament. The committee recommended the payment of the original sums, which were confirmed in 1684.

The last record we find is in 1665, when Dr.

Margetson reported to the House that inconvenience had arisen in collecting the wages of members, and that no warrants should issue for any wages due from the 27th of September, 1662. It is most likely at this date, or soon after, the payment of wages to members of parliament ceased. We would like, however, to have the full particulars of the cessation.

Without entering upon the question of pure party politics, we think it would be much better to pay the majority of our members of parliament at the present day than allowing them to pay themselves by other means. If representatives were the servants of their constituents, instead of being their dictators, parliamentary representation would be more honest, and more satisfactory works would be performed.

In a short review or notice of the first number of Malton's “Views of Dublin” in the *Anthologia Hibernica* for September 1793, the critic says:—

“This is the first number of a most beautiful work, and contains a view of the Custom House, a view of the Royal Exchange, and a view of Leinster House [now the Royal Dublin Society], with a frontispiece of the City Arms, and a Map of Dublin [Speed's], as it stood in 1610. Besides these, we have the original form of the Castle, and two ancient seals of the city, one of them dated 1459. We apprehend Mr. Malton is mistaken in making the original form of the castle a square. At first it was a rath, and almost peninsulated. The Danes, who long possessed it, formed it into a circle, defended it by round towers, with a keep in the centre. It was afterwards enlarged by the English, and then assumed the form of a square.” We have a suspicion it was the Rev. Edward Ledwich who was the writer of the above. According to that writer, the Danes built our Round Towers, and did sundry other great works; but Ledwich, as we have shown already in these pages, notwithstanding that he published a work on the “Antiquities of Ireland,” is no safe authority in antiquarian, and certainly not in architectural matters. A word as to Malton's “Views of Dublin.” The work, on the whole, is a somewhat valuable, and is becoming a scarce one. It contains a number of large plates of public buildings in Dublin in the last century, nearly all of which still exist, though somewhat changed by time. There is also in Malton a brief historical sketch of the city, and information on city matters not to be found elsewhere. The work as a reference for illustrations in Dublin towards the close of the eighteenth century, will, as time advances, be more and more sought after.

Archery was once in high repute in Ireland as well as in the sister kingdom. In the reign of Henry VII. and succeeding reigns acts were passed for its encouragement. Baron Finglas recommends in his *Breviate* “that shooting be used in every parish within the English Pale every holiday, so that the weather be fair, upon pain of three shillings and four pence.” For a considerable time after this period archery was practised, and archers attended the magistrates of the principal towns on martial expeditions, and there was a grant of poundage to the lord deputy to provide him with a guard of bowmen. The introduction and use of firearms subsequently put archery in the shade, and what was a necessity of warfare became a pastime. Archery was kept alive in Ireland by archery clubs, which continued to exist for several years in the early part of the last century. Some information upon the subject will be found in Joseph Cooper Walker's “Memoir on the Armour and Weapons of the Irish.” On Hoggin-green (now College-green) the citizens had their butts for many years. As the city increased in size, the butts were removed to a spot on the North Strand, once known as Cunningham's Rope Walk. Mr. Walker's father remembered to have seen them there in the year 1734. About this

time the practice of archery ceased in Dublin. It had been kept alive by a society of gentlemen and wealthy citizens, known as the “Archers' Club.” A sheaf of arrows which belonged to this club was in the possession of Joseph Cooper Walker towards the close of the last century. This sheaf Mr. Walker deposited in the Museum of the Royal Irish Academy, where it may still be seen. Tradition says these arrows originally came from Nottingham. They are made of aspswood, feathered with a grey goose wing, and about 27 in. long. Mr. Walker states that the last member of the Dublin “Archers' Club” was a Mr. Henry Delamain, who lived and retained his faculties down to the year 1781. Archery for amusement is practised in several of the parks and public gardens of the sister kingdom, but the majority of these amateur bowmen (and we have seen a good number of them) would scarcely “hit a haystack” at fifty yards' distance. The English imposed the practice of archery on the inhabitants of the Pale shortly after their settlement here, as a means of defence against the wild and numerous “Irishry.” According to our old chroniclers, however, archery was known and practised in far back Pagan Ireland, in the days of the immortal “Fin MacCool,” and others of his kith and kin.

Here is a glimpse of the use of the pillory in Dublin in the year 1793:—On the 24th of October in the above year a Mr. Dunne had to stand in the pillory in Church-street, opposite to St. Michan's Church, his crime being the using of certain seditious expressions. By some mistake the pillory was erected opposite to the house of a Mr. Vouden, instead of opposite to the church, as directed by his sentence. When the sheriffs and guards arrived, the order of the court was read, and, the error being discovered, the sheriffs appealed to the spectators, requesting their assistance in removing the pillory to its proper place, assuring them they would be well paid for their trouble. The “Dublin boys” listened and looked on in solemn silence, none offering to “lend a hand.” Some soldiers being present among the spectators, the sheriffs appealed to their loyalty, the scarlet lads obeying. After the pillory was moved and Mr. Dunne had ascended it, a gentleman entered into conversation with him from a window, whereupon he was severely reprimanded by one of the irate sheriffs, who insisted that no one should speak to the disloyal culprit.

Up to the second decade of the present century the use of the pillory was common in Dublin, the celebrated Watty Cox, the editor and proprietor of the *Irish Magazine* having been sentenced more than once to stand in the pillory, suffer imprisonment, and pay a fine as well, for inciting his gracious majesty's subjects to acts of insubordination, and libelling the powers that were, from the King and Lord Lieutenant down to the redoubtable Town Major Sirr, of historic civic memory.

H.

“RESTORATION” OF THE GAITY THEATRE. — It is announced that the Gaiety Theatre has been “restored.” It was built in 1871.

SANITARY CONDITION OF THE DUBLIN BARRACKS. — A board of officers, under the presidency of Lieut.-Col. Vacher, Assistant Quarter-Master General, is now thoroughly overhauling the sanitary condition of the buildings occupied by the troops, with a view to the remedying of any defects which may be brought to notice. In so unhealthy a town as Dublin it is difficult to isolate completely the military from the many causes of disease which surround them; but owing to the great attention paid to everything connected with the prevention of disease in the army, the latter, as a rule, compares very favourably with the civil population amongst whom they are quartered. If the cause of disease is to be accurately ascertained, it is of the last importance that each case as it arises should be thoroughly traced and sifted in all its bearings, and the facts connected with it accurately recorded. When this is done the exciting cause is sure to be found, and the remedy becomes then a very simple matter.—*Medical Press*.

THE ARCHITECTURAL ASSOCIATION OF IRELAND.

An ordinary general meeting of the members of this society was held on Thursday evening, the 30th ult., Mr. T. H. Longfield in the chair.

The minutes of the previous meeting having been read and confirmed, Mr. James H. Owen, M.A., delivered an extempore lecture on the "Earth-Closet System," of which the following is a brief report:—

Mr. Owen began by giving a short account of the different systems advocated for the disposal of house refuse, and the objections to each. Reverting to the earth system, which, although inapplicable to a city like Dublin, as the carriage of something like 1,500 tons of earth inwards and outwards daily would be a source of enormous expense; nevertheless Mr. Moule's idea was a valuable one. This gentleman found that when earth was brought into contact with house refuse, there was a total disappearance of all the offensive qualities of the latter substance, while a very valuable manure was obtained. Also, it was discovered that the earth can be used over and over again as many as twelve times, until, in fact, a manure is obtained of so highly concentrated a quality as to require dilution before it can be applied to the land. With reference to Mr. Moule's form of closet, Mr. Owen was of opinion that it is rather complicated for schools, barracks, and houses of the poorer classes, and he proceeded to describe a number of arrangements which he had employed for carrying the system into effect. For the complete success of the system there were three things essential—First, that the proper quality of earth be used; second, that the right quantity be used; and third, that it be in proper condition. Almost any description of mould or earth which, on being well dried, will fall into a friable state, like ordinary garden mould, will suit; but any earth of a peaty nature is very inactive, while sand and coal ashes are perfectly useless. As to the quantity, as much earth only is necessary as will suffice to absorb all moisture out of the mass to be disinfected, without being more than damped itself: this has been found to be about 5 lbs. weight for every time the closet is used. Finally, the earth must be in a perfectly dry state, and, if possible, baked artificially, although if stored for a time in a shed this process may be dispensed with. In erecting closets on this system at some buildings under his charge, Mr. Owen found that there was a great prejudice to their use, but this was rapidly dying out, and the system was now rather popular than otherwise. Among the places where it had been employed successfully were—the Mountjoy Barracks, the Constabulary Depot, the out-offices of the Viceroyal Lodge, and at several schools and coastguard stations; and the methods employed were described. In conclusion, Mr. Owen thought that, although the system was inapplicable to large towns, from the fact of the large quantity of earth necessary—about 15 lbs. per individual daily,—and the enormous depôts for storing and drying, as well as the expense of carriage and disposal, still the system was very suitable to country districts, being economical and comparatively cleanly, while the offensive and degrading occupation of cleansing cesspits and other receptacles would be obviated.

The paper was illustrated by a series of diagrams on the blackboard.

Mr. W. J. Fennell proposed a vote of thanks to Mr. Owen for his valuable lecture, and described the system of earth-closets used by the War Department for barracks where no water-carriage system was possible. The chief difference between this method and the arrangements described by Mr. Owen is, that in the former a fixed quantity of earth was discharged into the closet at each time of use, while in the latter the earth is thrown in by an attendant going round at stated periods for the purpose.

Mr. J. L. Robinson, in seconding the vote

of thanks, regretted that there was not a larger attendance of the members. Speaking of the condition of the earth, he said he understood that it was the practice of the War Office authorities to have it dried artificially previous to use.

Mr. J. J. O'Callaghan gave testimony as to the value of the earth system in remote districts where there was no water carriage obtainable without enormous expense, not only in the first cost of construction, but also in subsequent repairs, where the apparatus were subject to rough treatment.

The vote of thanks was then put to the meeting, and carried unanimously, and the proceedings came to a close.

RAILWAY ACCOUNTS.*

From the establishment of railways owned by public companies, it has been customary, and provided for in their acts of incorporation, to summon the shareholders to a meeting soon after the close of each half-year, to transact the general business, but more especially to receive accounts showing the financial condition of the concern, and giving details of its expenditure and receipts for the period. Considerable differences existed in the form in which these accounts were prepared by the various companies up to 1868, and it was, therefore, very difficult to institute a comparison of them between different companies, which would enable an opinion to be formed as to the wisdom and economy of the management. The Act 31 & 32 Vic., cap. 119, passed in that year, prescribed a form in which every railway company in the kingdom was to prepare its accounts, which for and since the last half of that year have been thus drawn up, and great facility thereby given for comparison, as far as figures are concerned; but as the conclusions to be drawn therefrom are sometimes reliable and sometimes exceedingly erroneous, the author trusts that the Institution will not consider an evening spent in examination of and discussion on the subject a misapplication of their time.

It may not be out of place to glance at the position of the Irish railways now and previous to the passing of this act; in 1867 serious dissatisfaction existed on the part of the public with the conduct of the traffic, and a want of confidence was felt by shareholders of many of the railways with the management of them by the directors; the report of the Commission on Railways in 1867 had also given weight to the idea that something was wrong. All this culminated in a very general desire that Government would purchase and work the Irish railways. The reports of another commission in 1868 were favourable to the project; there were powerful political reasons for it; the money at stake was not large, considering the resources of the nation, but the feeling of Parliament was decidedly adverse. Although since then Parliament has invested the national funds in telegraphs, territories, canals, at home and abroad, it is remarkable that at the present moment not the slightest pressure is put upon them to purchase the Irish railways, the simple reason being that their position has been so much improved, and their prospects are so good, that their proprietors have no desire to part with them, and their directors may certainly well feel proud of this state of things.

During the period, 38 separate workings of lines have been, by lease or amalgamation, reduced to 17; gross receipts have increased from nearly £1,900,000 in 1867, to over £2,500,000 in 1874; nett from about £900,000 to £1,122,000, and the value of the entire, according to Stock Exchange quotations, from 22½ to over 30 millions in the same period.

The author referred in detail to the form specified by act of 1868. As to No. 4, he said—The capital on lines in course of construction is properly given separately, because

* "On the Form of Railway Accounts." By John Chaloner Smith (Hon. sec.). Read before Institution of Civil Engineers of Ireland, April 5th.

the interest thereon is a burden on revenue, presumed to cease when these lines are opened, and should therefore be considered when estimating the value of the shares. But this account is specially important as fixing the items of expenditure to be charged respectively to capital and revenue, on the due adjustment of which the stability of the affairs of the company depends, for if items properly chargeable to revenue are debited to capital, the consequence is an inflation of dividend, proportioned to the amount so debited, which might benefit speculators for a rise in the shares, but would injure those purchasing from them, and would be of no real benefit to the permanent holders, resulting, if carried on during long periods to any considerable extent, sooner or later in a collapse, just like the affairs of a spendthrift who runs through his estate by expending the substance instead of the rental of his property. On the other hand, if items chargeable to capital are thrown on revenue, the dividends are unduly depressed, and holders may sell in ignorance of the value of their shares. Instances have occurred in which a few persons in authority have thus manipulated the accounts as to obtain for themselves the entire property much below its real worth. The method provided for the avoidance of such errors is the submission of the accounts to auditors; there can be no more important duties than theirs, and fortunate are the companies whose auditors have capacity to detect and independence to expose such errors. It will, however, frequently happen that it is very difficult to decide to which account certain items should be charged; for instance, the construction of a new length of line or station, and the abandonment of the old, which did the work, although not so efficiently; or the cost of new rolling stock when the mileage has not increased: in such cases the question might be submitted to the proprietors by including the item in No. 7 before the expenditure has been incurred, and thus future cavilling might perhaps be prevented, and the duties of the auditors would be made less onerous.

No. 6. *The Return of Working Stock*.—It may be observed that this heading shows that the framers of these forms, however familiar with accounts, were not well acquainted with railway nomenclature, for by "working" must have been meant "rolling." This is proved by the items of the return, and by the certificate respecting it; and it may not be amiss to remark that the engineer signing this certificate thereby vouches that every locomotive and vehicle mentioned in this return is in good working order and repair.

Abstract A.—Maintenance of the line; and comparisons may be made by mileage forward, by train miles, or by amount of weight carried.

Taking as leading examples the London and North Western and the Great Southern and Western railways for last half year—on the English line the cost per mile forward was £398, on the Irish £150; the English train mile 9d., the Irish 12d.; data for amount of traffic carried are not given, but, if the train miles be divided by the miles forward, there will be an approximation to the number of trains over the whole system—those carried on the English line £456 each, on the Irish £123, which is some index to the comparative weight of the traffic carried; the dead weight, however, being probably not proportionate to this. Evidently, therefore, comparison by any one of these three methods must be erroneous, because only some of the items, or parts of items, which make up the cost are proportionate to that one; for instance, cost of sleepers is proportionate to the miles forward, for they decay rather faster under few than many trains; wear of rails is proportionate to number and weight of trains; wages are proportionate more to miles forward than to number of trains, or to the line being double or single.

It is interesting to compare cost with that of previous years, and it will generally be found that there is a considerable increase,

both for miles forward and train miles, partly owing to increased wages, partly to increased quantity of materials required in consequence of the line becoming older and the original way wearing out in increasing proportion, thousands being now necessary instead of hundreds a few years ago. The gross cost of maintenance of the Irish railways increased from £292,295 in 1870, to £412,150 in 1874, or over 40 per cent.; the English and Scotch from £3,863,072 to £6,143,960 in the same period, or over 59 per cent. The additional mileage opened is, in both cases, too insignificant to affect the comparative result. It is probable, however, that on many miles the full average has now been reached, and, perhaps, the extensive use of steel rails may even lower cost in future years. What this future cost will be, is the most interesting and important question of all; it depends much upon the age, description, and quality of the materials of the way, and of the nature, if temporary or permanent, of the works; no one can arrive at so just a conclusion, for no one knows these data so well as the engineer of the line, and it might save misapprehension if he were clearly to explain his views on the point. As an instance, the engineer of a line with which the author is acquainted in the early part of 1868 reported to his board that he estimated the materials required for maintenance of way to be £10,000 per annum for four years, and £7,000 per annum thereafter, making for seven and a-half years £64,500; the actual cost was £63,020: for wages his estimate was £46,000, but this item turned out £60,500.

Abstracts B and C refer to rolling stock; here the comparison by train mile is more just, having, however, to be corrected by the weight, speed, and length of runs of trains, and by the gradients of the line; accordingly for this department we find the English line alluded to 11.7d., and the Irish 12.9d. per train mile for last half-year.

Abstracts A, B, and C are not comparable, if portions of the cost have, on some railways, been charged to capital; for instance, the difference between heavy and light rails, the former the author has generally found inferior in quality to the latter, consequently they are shorter lived, and their additional value when old will barely cover this; or between steel or iron rails, the advantage expected to be gained by the former is that one renewal will save two or more of the latter, but these two or more would be chargeable to revenue, consequently the single one should be charged to that account; or new engines or vehicles, not additional, but replacing others worn out or even broken up. In these departments the quantity of renewals necessary will vary considerably in each half-year; sometimes also it will be advisable to limit the renewals when prices of materials are high, or to push them on when these are low; for this it is desirable to have a reserve fund applicable to these purposes, and to no other; this fund might be formed of balances, when such existed, between the actual and estimated average cost, for when the engineer has estimated his average, it is to be understood that he means that if the cost be below it in one half-year, it will be above it to the same extent in some other, consequently the balance referred to is not properly available for dividend. . . .

It may be mentioned that engineers' reports, which were usually placed after those of the directors, and laid before the shareholders each half-year up to 1868, are now frequently omitted; indeed, as the railways are generally completed, there appears no reason for publishing engineers' reports and not those of the officers of the other not less important departments; but the author believes that reports of the officers, embodying their remarks on the past, and suggestions for the future, should be systematically made to the boards, even if it answered no other purpose than assisting the directors when compiling their own report to the shareholders.

A lengthened discussion followed the reading of the paper.

BOOKS RECEIVED.

Architectural Studies in France. By W. Galsworthy Davie, Architect, Gold Medalist R.A., and Soane Medallist R.I.B.A. Published by the author at 21 King William-street, Strand, London.

The first two parts of this work are before us; they may, we presume, be taken as samples of what are to be supplied monthly until the work is completed in fifteen parts. There will be given ninety lithographed plates, of which fifteen will be in colours. The coloured plate with part first is of a Crucifix from the museum, Auxerre Cathedral; it is given full-size, with details. That with part second is of stained glass, from Auxerre and Bourges Cathedrals. From a prospectus issued by the author, we learn that "These studies consist of measured drawings and sketches (plotted on the spot) of stone, wood and iron, enamels, stained glass, encaustic tiles, tapestry, &c. Some of the mouldings and sculptures are given full-size, whilst others have been reduced from full-size drawings." The author has not signified any intention of supplying descriptive letterpress. We heartily commend the work to the attention of the profession as well as to art students.

THE MUSEUM OF SCIENCE AND ART QUESTION.

A MEETING of the council of the Royal Dublin Society was held on the 6th inst., for the purpose of receiving a report from the deputation which lately went to London to interview the Lords of the Committee of the Science and Art Department, South Kensington, with reference to the proposed Science and Art Museum in Dublin. Sir George Hodson, Bart., occupied the chair.

The deputation reported that they submitted to their lordships a number of queries with respect to Lord Sandon's letter, in order that they might be able to give the information to the society on their return to Dublin. Their lordships expressed a desire that the queries should be left with them for their consideration. Since the deputation returned to Dublin, the following has been received:—

Science and Art Department,
South Kensington,
1st April, 1876.

After meeting the deputation from the Royal Dublin Society last Wednesday, I submitted the following memorandum to Lord Sandon:—"I have had a long interview to-day with the deputation from the Royal Dublin Society. It is evident that many difficulties would be removed if an amalgamation could be effected between the Royal Irish Academy and the Royal Dublin Society. The arrangement of such an amalgamation would be a matter entirely for the societies; but it might tend to forward such a scheme if the gentlemen interested in it were assured that it met your lordship's approval, and that if the societies were prepared to take the necessary steps, Government would give them any aid in its power. Further, there is some possibility of an amalgamation of the Royal Agricultural Society of Ireland with the Royal Dublin Society. If this were carried out, would the Government be prepared to provide for the agricultural shows in the Phoenix Park, and remove them from the present buildings beside Leinster House?" Lord Sandon has authorised me to give this assurance generally. Will you, therefore, kindly inform the members of the deputation of this? I should add that I told Lord Sandon that if an amalgamation were effected it would probably take the form of a new society, with a limited number of fellows, ordinary members, and an agricultural section. I said nothing about this in the memorandum, as it is, of course, a matter purely for the societies to arrange. Under these circumstances I suppose the deputation from the Royal Dublin Society would wish no further steps to be taken with regard to the queries they left for Lord Sandon until we hear from you.

F. D. DONNELLY.

After some discussion, Sir Arthur Guinness, Bart., M.P., proposed—"That the deputation which returned from London be requested by this council to communicate Major Donnelly's letter to the council of the Royal Irish Academy and the

council of the Royal Agricultural Society, to endeavour to ascertain their views."

Lord Powerscourt seconded the motion, which was adopted.

Some routine business was then transacted, including the election as members of Messrs. John Scott, Jonathan Hogg, Thomas Harris, Q.C., and Graves E. Searight.

ALLIANCE AND CONSUMERS' GAS COMPANY.

THE half-yearly meeting of the shareholders of the above company was held on the 31st ult. There was a large attendance of shareholders. Edward Fottrell, Esq., J.P., Chairman of the Board of Directors, presided.

The Secretary (Mr. W. F. Cotton), read the report, which has already been published.

The Chairman said he had great pleasure in congratulating the shareholders on the statement the directors were enabled to place before them. During the last half-year there had not been any untoward event which in any way marred the prospects of the company. Everything went on smoothly. When he addressed them last, and foreshadowed what the directors then intended to do, he said, among other things, that they intended to reduce the price of gas by 4d. per thousand cubic feet. The shareholders would see that he was warranted in the statements he then made. The report was unexampled in the history of the company; it was decidedly the best they had ever received—in fact, it was almost startling to see the recovery that had taken place in such a time. The profit shown by the report was large; but as they were perfectly aware, they owed £7,732 1s. 10d., in consequence of loss sustained during the coal panic; and if they had not adopted the course they did, it would have been taken from the working capital of the company. They were now replacing it, and thus putting the company into a safe and sound position; the public and consumers at large ought to thank them for so doing, because it was patent that by the Gas Clauses Act they would be justified in making another use of that money. They thought, however, that in Dublin, where there was but one gas company, while they consistently did their duty towards the shareholders—which was of first and paramount importance—they must not lose sight of their consumers, the public. With that view, they thought it better to wipe off the £7,000 at once, and thereby clear it for ever from loss. He hoped such an occasion would never arise again. The dividend of 8½ per cent. they thought a very fair and equitable division of the profits, and they carried forward the large sum of £4,000 odd to the contingent fund. Considering the size of this company, the contingent fund should be an ample one. It was always good security against the chance of any accident. Their extensions had gone on well during the past year. They had expended in what were literally new works a sum of £8,000 to meet demands wherever they arose. The company's mains now reached 325 miles, which was much larger in proportion than any other company, for the gas they had distributed over that 325 miles could, when compared with the large companies in England be distributed by half the mains. As to the leakages, &c., they had reduced them to 18 per cent., and although that was not as small as they could wish, still there was a reason for it—the extent of the mains as compared with the quantity of gas delivered. The directors had of course seen some letters in the papers, and comments on the company, but they made it a rule to decline newspaper controversy, and to abide by the half-yearly meeting, when any gentleman who desired could ask any question he pleased, and he would be fairly answered. The remark had been made that no doubt they were doing very well, but that if they had not the excess of capital they would do a great deal better. He had taken the trouble of going over the capital accounts of several London companies, and he was happy to say the capital of this company, in proportion to the work they did, bore very fair contrast with the average London companies. Another observation made was that the new gas-holder at Barrow-street had not been in use for six months. That statement showed that people who wrote to the papers sometimes did not know much, for the holder had been in use every day since October twelve months.

The increase of salary to the secretary (Mr. W. F. Cotton), of which notice was given at previous meeting, was passed unanimously. The seconder of the resolution remarked that no doubt his (Mr. Cotton's) exertions, combined with those of the directors, had tended to the great prosperity of the company. He was sure that in return for the liberality of the shareholders Mr. Cotton would use his best exertions to further their interests.

CORRESPONDENCE.

THE ROUND TOWERS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—I have read the letter of the Rev. Richard Smiddy on the above subject, in your number of the 15th ult. He states the popular Irish name of the Round Tower, and gives a reason for the elevated door, and the large window above the door, and the four windows at the top. But this large window above the door is not found in the greater number of the towers—it is only in a few of them. Can you, or he, or any other writer on the Round Towers, explain this difference? Which is the Round Tower of the "true type,"—the one with this window, or the one without it? A MUNSTER MAN.

[We leave the question open. Most likely the Rev. Mr. Smiddy will reply to our correspondent's query.—ED. I. B.]

THE PROPOSED SCIENCE AND ART DEPARTMENT.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—The probability of a "Science and Art Department" for Ireland is now so likely to become a reality, that it behoves all interested in this most important adjunct of education to weigh carefully any opposition to the views of Government which may tend to shipwreck the scheme. As a member of two of the societies about to be incorporated, I should be the last to submit to an amalgamation derogatory to either, or a lessening of their "autonomy." Nevertheless, I look with feelings of dread lest a spirit of mistaken independence may lead the present governing bodies to see stumbling blocks in the scheme which do not really exist, and to object to amalgamations which they may conceive prejudicial to the societies which they control. I can easily see that if the Government give liberal grants for one great object, it is more convenient (and, in my opinion, much better) to concentrate the several endowed societies under one head. Why such concentration should injuriously affect these societies I cannot conceive; each would be a part of a whole, deriving mutual help from each other, and diffusing information with greater facility.

The Royal Irish Academy and the Royal Dublin Society are scientific and artistic in their pursuits; both derive grants from Government, and although private beneficence has helped to the efficiency of each, the "proprietary" sentiment should not be allowed to interfere with original intention, which aimed at usefulness to the utmost, both to members and the public.

The great question is—Will collections of antiquities and other objects of art be as well seen, as well cared for, and as useful to the public as heretofore?

Further—Will the societies have the same facilities of forwarding science?

Surely comparison of art is most important. In the new museum the Irish metal-work can be examined in conjunction with that of other countries and dates. So with other things. The same facilities will be offered for research and reading of papers. Concentration will favour attendance, which thereby will be improved. The sentimental feeling of each society having its own home may be diminished, but this is of small consequence.

I by no means concur in the teaching of the Science and Art Department from an artistic point of view, and am sure that the Milesian mind cannot be cast in the same mould as the Saxon; but this will correct itself.

I can only close this letter with the hope that every facility will be given towards the formation of a great school of art, and that the handsomest offer made by any government to Ireland may not be cast aside from technical objections.

THOMAS N. DEANE, R.H.A.

April 10th, 1876.

TRADES UNIONISM IN DUBLIN: THE "REGULAR" (?) CARPENTERS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Your correspondent "Clerk o' Works," in speaking of the "House," i.e., the Carpenters' Asylum, Gloucester-street, and its neglected appearance, forgets that it is utilised, if not in accord with the original intent of affording a home for old and infirm members of the carpenters community, is being hired for municipal elections, and a portion of it set to other societies, thus adding to the funds of the community, and enabling its mem-

bers to support their old men, if not in the asylum, where they would be "cribbed, cabined, and confined," in much larger and salubrious residences, i.e., the North and South Unions. In the seemingly modest preamble to their rule book, the men set forth their object—"The glory of God, the honour of our Queen, the well-being of our neighbours, the support of each other in distress, provision for our members in old age, and decent interment, and to provide for the children of our deceased members." How the two first objects are attained it would be difficult to say; and as to the well-being of our neighbours, ask the denizens in the immediate vicinity of the asylum, and they will give you a character of "the men." In fact the preamble and the rules are a humbug, the only object being to throw dust in the eyes of the uninitiated, and impose on the public as a benevolent society. The rules (25 in number) are so much waste paper, with one exception, and that is religiously adhered to, viz., rule 10, which says that "non-members shall pay the sum of £5 as entrance into this society." That rule is never departed from; but rules 16, 17, and 18 hold out strong inducements to the unwary to join. Rule 17 says—"Members out of employment shall receive 8s. 6d. per week." Rule 17—"Members on reaching an age past their labour to receive 7s. 6d. per week." Rule 18—"His next of kin to receive £4 for decent interment." Not one of these rules is carried out—not even an approach to them. The society is rotten to the core. Within the last twenty years half-a-dozen attempts have been made to reform it—but all to no purpose; it got into the old groove again. These few years past its decent members have abstained from taking part in its proceedings, they not being ambitious of returning to their homes with a black eye or torn habiliments. The society has outlived its time; it is out of place just now; it is not required. Some years ago a necessity existed for every man who wished to get the value of his labour to belong to the "Regular Carpenters," when there was a glaring discrepancy between the wages of society and non-society men. That is no longer the case. The members of this body are living on the name made for them by their fathers and grandfathers, not upon their own merits. If they do not move with the age, they must lag behind. Not to advance, is to retrograde. Their system is old-fashioned and tyrannical; their figure for admission means exclusion that no carpenter who can earn his wages would think of giving. It is only inefficient men who have a decided advantage in having their wages made for them, and who receive a sum that in competition they are not entitled to, who join. I hope, as an old member of the Gloucester-street body, that the thinkers in it will move in this matter, and get out of the slough that an empty pride and an overweening confidence keeps them in. There are younger societies in the city whose rules and usages are more in accordance with the spirit of the age, and who are ready to take their place if they will not learn.—I remain, your obedient servant,

THOMAS PARKER.

[The above excellent letter we would commend to the serious attention of the "Regular Carpenters" of Dublin; it is candid, outspoken, and unexaggerated in tone and statement. Whatever opinions may have been entertained to the contrary, we have always endeavoured to act fairly by the building operatives of this city. We have long deplored the evils and defaults pointed out by Mr. Parker, who is no novice, but an old member of his craft, whose name is in our recollection for long years. We have more than once directed attention to some of the matters particularised, and we do sincerely hope that a reform will soon be evidenced.—ED. I. B.]

EMPLOYERS AND WORKMEN.

ENGLAND AND SCOTLAND.

THROUGHOUT the sister kingdoms disputes are still cropping up between workmen and their employers as to rates of wages and hours for work. The claims of the Birmingham house-painters have been adjusted by an arbitration which split the difference of the sum in dispute. Instead of obtaining a halfpenny an hour at once, they obtained a farthing from the first of this month, and an additional farthing on the 1st of April, 1877—the reason of dividing the sum being that some employers had entered into heavy contracts last year on the basis of wages at the time, some of which contracts are standing in abeyance.

In Northampton the plasterers obtain a 1d. an hour advance, their wages in future being 7½d. instead of 6½d. per hour.

The Mayor of Birmingham, who was appointed arbitrator between the employers and operative ironworkers of South Staffordshire, has given his award. He decides that reduction of wages has become necessary, in consequence of the depressed condition of trade; that the reduction shall be 7½ per cent., or 9d. per ton for puddling, and shall take effect after the week ending April 29; and that the rate of wages now settled shall continue in force till October 1 next, when it may be reconsidered upon seven days' notice.

At Woolwich on Monday last, two workmen—a hammerman and a pattern-maker—were charged on remand with conspiracy, intimidation, and assaulting two other men employed at the engineering works of Messrs. Eastons and Anderson. The prisoners were two of the hundred and seventy men who turned out on strike from the Erith Ironworks in December last, a large number of whom still remain about the district. The case had been adjourned for the result of the charge against the defendants and seven others of conspiracy and intimidation with violence, which was heard at Dartford on Saturday. Mr. Croome, on behalf of the Society of Amalgamated Engineers, appeared for the defendants; and Mr. Lewis, who was to have prosecuted, sent a message asking that the case might be adjourned, as he was unable to attend. Mr. Croome informed the magistrate that the present case had been gone into before the county justices at Dartford on Saturday, when the defendants and others were committed to take their trial at the county assizes. Mr. Patterson (the magistrate) observed that that would end the matter as far as his court was concerned; and the prisoners were therefore discharged.

At Bolton, on Monday, five men, supposed perpetrators of a trade outrage, were brought up before the magistrates. Against one a charge of murder was made, and against the second, a violent assault. Twenty-nine other men, who had been bailed out, were discharged, and the five men above named, who formerly worked at Slater's Bleach Works, were placed in the dock. Mr. Hall merely gave a short statement of the case, and, in asking a remand, called upon the Chief Constable (Mr. Beech), who said if prisoners were remanded until Saturday week, he could prove that these five men were directly or indirectly concerned in Thompson's death. The man McCurley is improving. The dispute between the men at Slater's Bleach Works seems to have arisen about stamping cloth in a particular way, for which the men wished more payment.

The factory workers' strike at Kircaldy has ended. Messrs. Speedie have intimated to their employees their intention to withdraw their notice of reduction of wages. The struck workers have returned to their work (about 400 in number), after being out for about three weeks.

The operative painters of Kircaldy and district have served a circular on their employers asking for an increase of wages to the extent of one halfpenny per hour, and also for allowance when working out of town—the sum requested for the latter purpose being 4s. per week.

At a meeting of miners' delegates at Dunfermline, after considerable discussion, it was resolved, re the recent notice of reduction of wages, "That the delegates agree to meet the employers as proposed; that the meeting be a final one, as the deputation clearly explained that the miners here are entitled to the allowance from the Union."

There is a depression in the spinning trade in some districts of the north of Scotland; and notices have been posted up at the works intimating that the working of short time will be resorted to.

Several strikes have recently taken place on the part of the agricultural labourers employed in Sussex farms. Amongst others the men employed by the Right Hon. the Speaker of the House of Commons have ceased working, standing out for an increase of 2s. wages.

HOME AND FOREIGN NOTES.

MEMORIAL OF DR. WATTS.—In Southampton on Monday last, a fine set of school buildings, dedicated to the memory of Dr. Watts, were inaugurated. They have been erected in connection with Above Bar Chapel, in which the Watts family worshipped for a century or more, while the poet himself, who was born in French-street, was baptised there, his name being the first in the chapel registers. The new school buildings completely cover the site of Dr. Watts's garden, a plot of ground which he conveyed to the deacons of the chapel in perpetuity.

TESTIMONIAL TO MR. R. M. LEVEY.—It is proposed to present this gentleman with a testimonial on the occasion of his benefit on the 20th inst. Connected with our Theatre Royal as leader of the orchestra, Mr. Levey's name is well known for the last half century. In connection with our musical societies, and as a composer also, our theatrical veteran is favourably known. We wish him a good benefit and a testimonial worthy of the occasion.

SUSPENSION OF WORKS.—Owing, as is alleged, to a dispute between the Government Engineer and the Messrs. Irvine, of Ballybay, the contractors for the new Government Works in course of erection beside the Military Barracks in Armagh, the works, which were commenced at the opening of the year, are now wholly suspended. The stoppage took place on Wednesday evening last.

EXHIBITION OF SCIENTIFIC INSTRUMENTS.—The German Committee of the International Exhibition of Scientific Instruments, which is to be held in London next May, has presented the report of its labours to the Crown Prince and Princess of Germany. The report shows that Germany will be represented altogether by 311 exhibitors, including the Prussian Ministry, the Chief of the General Staff, the Postmaster-General, and the Royal Academy of Science, who have all given permission for their most valuable instruments to be exhibited. In concluding its report, the committee expresses its great satisfaction at the obliging manner in which it has been met by the English Commissioners, the Duke of Richmond and Gordon, Viscount Sandon, and Professor Owen.

THE DEATH OF ALEXANDER STEWART.—This well-known merchant, reputedly the wealthiest man in the United States, died on Monday, of inflammation in the bowels. He was a native of Belfast, where he was born in 1803. After receiving a good school education, he graduated in Trinity College, Dublin, in 1823; and in that year he emigrated to America. He was the most famous dry-goods merchant in the United States. He established numerous branch houses for his trade in most of the chief cities of the States. He spent thousands of pounds in building economical hotels for young men and women. In the famine period of 1847 he sent a shipload of provisions to this country, and contributed munificently in aid of the sufferers by the Cotton Famine in Lancashire in 1862. Though he suffered immense losses himself by the Chicago conflagration of 1871, he contributed largely towards alleviating the distress caused by that catastrophe. Mr. A. T. Stewart, from small beginnings and a proper and business-like system, amassed great wealth, but lived and died no miser, but a truly benevolent Irishman and American citizen.

A JUST DECISION.—In the Chancery Division of the London Law Courts a motion was made on behalf of a dissentient shareholder in Price's Patent Candle Company, to restrain the directors from paying to the workpeople in the company's employ a gratuity of a week's wages as an encouragement. A majority of the shareholders had voted the sum at a general meeting. The Master of the Rolls, in deciding to refuse the application, remarked that he should have very much lamented if the law had been in such a state as to compel him to accede to it. In consideration of the point raised being a new one, he dismissed the action without costs.

SCIENTIFIC EXHIBITION AT SOUTH KENSINGTON.—A meeting of chairmen of sections for organising the conferences in connection with the approaching Loan Collection of Scientific Apparatus at South Kensington was held on Monday. The following gentlemen were present:—Dr. Burdon Sanderson, F.R.S., (in the chair); Mr. Warren De la Rue, D.C.L., F.R.S.; Professor Frankland, D.C.L., F.R.S.; Professor Ramsay, LL.D., F.R.S.; and Dr. Siemens, F.R.S. It was resolved that the conferences should be held on the following dates:—Physics (including astronomy), 16th, 19th, and 24th May; mechanics (including pure and applied mathematics and measurement), 17th, 22nd, and 25th May; chemistry, 18th and 23rd May; biology, 26th and 29th May; physical geography, geology, mineralogy, and meteorology, 30th May, 1st and 2nd June. It is proposed that addresses should be delivered on special subjects, and that the more important instruments exhibited should be described and discussed.

GAS IN PARIS.—Paris, the worst-lighted city in the world formerly, in the second half of the nineteenth century could not exist without gas. In 1855 it consumed 40,777,400 cubic metres, and in 1872, 147,688,372,—an augmentation in sixteen years of 107,000,000. How is this supply—mighty for Paris, though not comparable with the necessities of London—distributed? By nearly two million yards large and small piping. But the

company, while in a great degree a monopolist, is not free to break up the roadway, or direct its main or inferior arteries, at pleasure. Paris has its "subterranean architect," who looks after more than a single interest. He will not permit gas to approach too near an aqueduct or any channel, above or underground, conveying water for domestic or sanitary purposes; he will have no leakage of one element into the other; he will not even permit an exudation from the gas-pipes into the drains, which, according to the report, gathering in one locality might, at contact with one of those lamps so continually carried through the Parisian sewers, blow up half a district. Consequently, the gas is distinct from the water and drainage net works, and disasters are exceedingly rare. In addition to this, the company pays to the municipal government the sum of £8,000 a-year for the retention of its privileges. Moreover, it has to pay for the breaking up and restoration of streets, and the re-laying of streets; but, on the other hand, the company pays coal dues in a very limited proportion, yet the Parisian tax on its public lighting amounts none the less to nearly £400,000 a-year, as the world is officially informed. It must be admitted that the arrangements are admirable. Eight hundred men sally forth at a given moment, and the city at dusk is suddenly enchanted, as it were, with light, without any clumsy apparatus such as we have at last got rid of, of ladders and lanterns. Twelve hundred miles are expected to be covered within forty minutes. The process of "putting out" is carried on more expeditiously still, for it takes up only half an hour. Now, when it is remembered that Paris is lighted up by 40,000 public gas jets, exclusive of grand occasions when the Arch of Triumph, the Hôtel de Ville, the Champs Elysées, are kindled into festive flames, will it be believed that large quarters of Paris are still unlighted by gas?—*Builder*.

The corn-porters of the city have decided on "striking" work until the driving clauses of the new Traffic Act are relaxed. The body numbers about 150 members.

THE NEW LIFFEY BRIDGE.—The Port and Docks Board have left out the clause in the Bridges Bill which imposed the cost of opening and shutting of the intended swivel bridge upon the ratepayers. This will be a saving to the ratepayers of some £400 a-year.

IRISH BULLS.

(AT THE R. D. S.)

Begorra, said Tim, there are bullocks and cows
Worth seeing this year at the Leinster House Show;
But what can compare with the boars and the sows?
I guess, answered Pat, that you don't care to know.
There's brightness and beauty, and fashion and wealth,
And sayings and doings there, that never dulls;
And Englishmen, too, who will drink Paddy's health
For his grand display of well-bred Irish "Bulls."

ROYAL DUBLIN SOCIETY'S SHOW.

The Spring Show of the Royal Dublin Society opens on Tuesday next, and will be continued on the three following days. The entries in the various departments are numerous. We would here notice that Messrs. F. W. Reynolds and Co., of London, the well-known engineers, will display, at Stand 21, some of the newest inventions in the way of labour-saving machinery in general use by builders and others. We believe this is the first time this firm has exhibited here; their very efficient representative, Mr. Ware, will be found at his post in Shelbourne-yard, to afford particulars to such parties as may be desirous of supplying themselves with the most improved machines. Messrs. Reynolds have just issued an illustrated catalogue of "Builders' Machinery and Appliances." (See their advertisement in this number).

Amongst our local firms who occupy prominent positions in the Show, we must not omit to mention one or two. Messrs. Kennan and Sons, Fishamble-street; Messrs. Edmundson and Co., Capel-street; Messrs. Booth Brothers, Stephen-street.

TO CORRESPONDENTS.

ARCADIES: CORMAC'S CHAPEL.—With reference to our double-page illustration of the above given in present issue, Mr. T. H. Loughfield writes:—"I think nothing can be more faithful than the photo-lithographic reproduction, which is about the best I have yet seen. I find that in your London contemporary [*The Builder*] of the 8th August, 1874, in a review of Mr. A. Hill's work on Cashel, the following re-

marks:—"We should have been glad to have seen larger details of the piers of the nave wall arcade, the treatment of which is most peculiar, and is scarcely adequately illustrated in the drawings," so that I think the subject will prove interesting."

VIGILANS (Dame-street).—You may in vain peruse our columns in future in hopes of finding any reference to "The Sixty." A few of the favoured journals may, in their wisdom, use the lash—we will not.

IRISH TRADES SOCIETIES.—We would feel obliged if the secretaries or other members of Dublin or provincial trades bodies would furnish us with the dates of their oldest or earliest trade minutes, or whether minutes have been regularly kept and preserved in connection with their societies. We would be glad to know have the building trades bodies in this city minutes of their proceedings, and how far back, and the date. Extracts of early entries would be acceptable—the object in view being one in the interests of the trades themselves, and illustrative of their respective histories.

ARCHITECT (London).—Not now in partnership.
C. E. (Glasgow).—The author mentioned is identical with the engineer of the name in this city.

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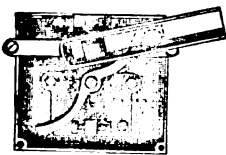
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The Irish Builder.

VOL. XVIII.—No. 393.

Some Exhibits and Exhibitors at the Royal Dublin Society.



THE usual Spring Show of the Royal Dublin Society, opened on the 18th ult., the cattle apart, there was a large display of agricultural implements and mechanical appliances connected with the industrial arts. We

purpose here to notice only a few of the exhibitors and exhibits more immediately connected with the objects of this journal, or those having certain special local features to command attention.

This year's show and exhibition of sundry appliances was well attended, and speculation among visitors was rife concerning the Government scheme, which, supposing it was carried, would greatly alter the future character of the Royal Dublin Society. Whether the show of 1876 will be the last held under the auspices of the Royal Dublin Society we will not at present hazard an assertion, more particularly as we perceive there are more obstacles in the way to the proposed scheme than some people seem to be aware of.

Among the exhibitors of appliances connected with the building trade, were the old firm of Booth Brothers, of Stephen-street, whose exhibits consisted of lifts, circular and sundry other sawing machines, and a large assortment of workmen's tools and other appliances used in the operations connected with building and engineering. The artists' and workmen's tools of this firm sustained their old reputation for good quality and careful finish.

Messrs. J. Edmundson and Co., of Capel-street, had on view a great variety of objects of utility connected with household and farmstead fixtures, ventilators, garden chairs, gas engines, gas stoves, Moule's Patent Earth Closets, and numerous fittings, useful and ornamental. The articles on view were some of the best, and attracted considerable notice.

The old and well-known house of Kennan and Sons, Fishamble-street, exhibited a very extensive list of objects and appliances, domestic and agricultural, hand-power and steam-power, improved ornamental iron gates, railings and fences for mansions, parks, churches, and cemeteries, &c., greenhouse appliances, anti-corrosive paints, portable steam engines, and a variety of workmen's tools—workshop, foresting, and gardening. The list of exhibits of this firm would be too long to enumerate. As a local firm of old standing, their exhibits were equal to any.

William Daniel, of Mary-street, displayed kitchen ranges, steam boilers, pumps, hydraulic machines, gas apparatus, &c. The objects on view were good and well finished.

Arnott and Co., Henry-street, exhibited a variety of bed-room furniture, carpets, cur-

tains, and other objects of house decoration. Several of artistic design and good execution.

Walter Fleming, upholsterer, of Dawson-street, exhibited a patent self-acting window-blind, and patent wire spring mattress. Both articles commanded attention, and appeared to answer their purpose.

The old-established house of Whyte and Sons, Marlborough-street, displayed some fine specimens of Irish china from the Belleek works, Co. Fermanagh, new designs in glass, articles for table decoration, patent duplex lamps, &c. Some of Messrs. Whyte's exhibits elicited great praise, and were the objects of constant admiration on the part of the visitors. Orders in many cases were secured.

William Kerr, gas and water engineer, of Henry-street and Talbot-street, exhibited a variety of useful objects, including designs for rustic work, hydraulic fittings, water rams, cisterns, gas and water appliances, for houses, farmsteads, workshops, aquariums, &c. The display was a very interesting one, and throughout the days of exhibition commanded attention.

Among the local exhibitors of agricultural implements and kindred appliances, were the old and notable firms of Henry Sheridan and Co., of Bridgefoot-street; Paul and Vincent, of Blackhall-place; Kennan and Sons, of Fishamble-street; Messrs. Thomas McKenzie and Sons, of Dublin and Belfast; W. and J. Ritchie, Ardee, Co. Louth, and other provincial firms. The above-named have a long-established reputation, and they maintained it on this occasion.

Coming to the English exhibitors of building appliances, we must note, as prominent among the rest, the firm of F. W. Reynolds, and Co., of Southwark-street, London. They had on view a large assortment of wood-working machinery, saws, mortising and boring machines, mortar-mixing mills, wrenches, cramps, and numerous other machines and tools for saving time and labour. Their mitre cutter, which cuts mouldings up to 7 in., attracted particular attention, as did also a boring machine, which, by allowing two hands to be used, is quicker, easier, and more accurate than the ordinary brace. The artistic designs executed by their hand saw, and the work done by their mortising machine, excited considerable admiration from the bystanders, who crowded around witnessing the several operations.

Walter Carson and Sons, of Ludgate-hill, London, and Bachelors'-walk, Dublin, had numerous objects on view, the assortment being well-selected and attractive. The agricultural implements were excellent;—the champion ploughs were here still to the fore; and among other articles noticeable, was an Irish bicycle, manufactured specially to suit Irish roads. We need only allude to their special exhibit—the original anti-corrosive paint, now so much used on this side of the channel.

Wurr and Lewis, 16 Walbrook, London, exhibited hand-power, circular, and band-sawing machines, and several other hand-sawing, wood-working appliances. On this stand, there were several first-class artists' and workmen's tools.

Charles Powis and Co., Gracechurch-street and Millwall-pier, London, exhibited some good sawing machinery, boring apparatus, circular-saw bench, and other kindred appliances.

Frederick Orme, of Bishopsgate-street,

London, displayed various kinds of pumps, drilling machinery, tyre-benders, augurs, glass lubricators, and other kindred objects.

Of English manufacturers of agricultural implements and other farmstead appliances, there were many at Kildare-street, the most of them being well-known yearly exhibitors for several years past. We must pass over their names, as well as several native firms, as their exhibits come more within the province of an agricultural journal. There were several minor local exhibitors, too, of sundry objects of ornamentation and luxury, which deserve notice in any general account of the exhibition, but we are, perforce, obliged to draw a line somewhere.

We have no doubt but this year's Spring Exhibition has been productive of much benefit to visitors and exhibitors; and though some of the latter may not reap much immediate profit, their display has paved the way to future good. Many of the articles exhibited by our English friends were novel to a large class of visitors and sight-seers, local and coming from a distance; and many farmers have gained an experience of what can be effected by new improvements. The same may be said of some of our builders and contractors, who still elect in the city and provinces to jog along by the old methods, oblivious of the saving of time and labour. A sight of the wood-working machines of Messrs. Reynolds, Powis, and of Wurr and Lewis, and others, ought to open the eyes of builders and workmen of the old school, and convince them that the time has come for them to move. Dublin and other Irish cities are not, of course, altogether without wood-working machinery and other labour-saving appliances. They were partially introduced upwards of twenty years since, but they are still only partially used here. A few energetic employers of labour, despite of great difficulties and obstacles, availed themselves of sawing, moulding, mortising, planing, and other machines; but wood-working machinery in Dublin or in the provinces, is by no means general. Workmen, in general, have looked with disfavour on the introduction and use of machinery, although, thanks to it, they are for years drawing better wages and working less hard—many once laborious operations being now performed by it, to the relief of workmen and the expedition of contracts.

HOMES FOR MEN.

ARTISAN DWELLINGS.

A CONFERENCE has been held in Dublin to consider the best means of improving the dwellings of the industrial classes in this city. May we hope that determined action has at last been taken, and not another out-crop of resolving which begins in talk and ends by an exhaustion of the same element for a time. Some of the articles in the daily Press have amused us much, as one or more exhibit specimens of cool effrontery. Some of these organs take the credit to themselves of services to the cause of sanitary improvement, and of keeping the same public posted up in their sanitary wants. In fact, some of these folk discover the death-rate before even the Registrar-General; and when they hear where uninhabitable dwellings are, and where fever has broken out, they tell it next morning to everybody as if one of their own staff discovered it, and was specially deputed for the work. It is very handy for these

organs to blow their own horn in this way, but their dishonest jackdaw strutting must be stopped, and their borrowed plumage plucked off. Let it be known, therefore, as a fact, that our daily journals—one and all, until within a few years back—scarcely devoted one paragraph to the cause of Sanitary Improvement. Indeed it was a tabooed topic with them.

For long years, single-handed, in this city, the *IRISH BUILDER* worked in the interest of Sanitary Reform alone; and of late we have met with the treatment that our excellent contemporary the *London Builder* met with some years since on the part of a portion of the English Press and some professional men. As one of the first—if not the very first—real sanitary pioneers, the *Builder* has led the way to all that ripened sanitary legislation which we now behold. Notwithstanding, the labours of the *Builder* were ignored by those who should be the foremost in assisting it. Ungenerous efforts, however, failed, and the *Builder* and its conductor occupies to-day the grand position honestly won and merited.

We hope we will be pardoned for alluding to our own labours. We would not do so only that we find that there is such an amount of dishonesty in some quarters, and a desire to ignore the labours of other men. We are always glad to see the advocacy of sanitary questions, and happy to meet with journalistic aid in the cause.

Having said so much we will now return to the subject of the conference alluded to. There was a large and influential attendance, and the chair was occupied by Sir Arthur Guinness, M.P. Mr. Jonathan Pim moved:—

“That inasmuch as the houses at present occupied by the artisans and labourers of Dublin are to a great extent of such a character as to be highly injurious to the moral and physical welfare of the inhabitants, this meeting is of opinion that a movement should be set on foot to provide suitable and healthy dwellings for these classes of the community.”

He thought no doubt could exist as to the necessity for better accommodation for the working classes, and considered the proposed movement essential to the benefits of the city. He had long wished to see some action taken in this direction. There was no reason why an undertaking which had proved successful elsewhere should fail in Dublin.

Dr. Gordon, president of the College of Physicians, seconded the motion, and commented on the disgraceful state of the tenement houses of Dublin.

Mr. Furlong, who acted as secretary to the meeting, spoke in support of the resolution, and explained the origin of the meeting. The Artisans' Dwellings Act, promoted for the improvement of the dwellings of the working classes, was introduced last session for England only; the Sanitary Association, however, seeing that this act gave increased facilities for the amelioration of the dwellings of the working classes, exerted itself successfully for the extension of the act to Ireland. Before the passing of this act similar, but not such extensive, powers were conferred by the act known as Torrens's Act. Under Torrens's Act, for example, compensation was not allowed to the owners of uninhabited houses which were taken for demolition and reconstruction, on the ground that an uninhabitable house was valueless; but under the present act compensation was allowed in such cases. Inasmuch as the benefits of the act had been extended to Ireland through the instrumentality of the association, it was thought that a serious responsibility would rest upon that body if it did not take every care that the act should not become a dead letter. He felt sure that the ultimate result

of this meeting would be the formation of a company to undertake the work of house construction, which the Sanitary Association felt was beyond its province. Three courses would be open to such a company:—1. To build houses under the new act, in lieu of those demolished by the Corporation. 2. To take ground from private owners and build without having recourse to the act or to the Corporation. 3. To carry out Miss Octavia Hill's plan of repairing houses. Without the co-operation of the Municipal Council no action under the act could be taken, and he thought that on the application of such an influential body of citizens as were here present, such co-operation would be gladly given.

Dr. Grimshaw said that his duty to-day was to show that the existing state of things in the dwellings of the poorer classes in Dublin required some such remedy as that proposed by the application of the Artisans' Dwellings Act. The census classification made of the houses in this city divided them into different classes, according to their house accommodation and actual habitation. The division comprised four classes, ranging from first-class houses, containing five or six rooms, and inhabited by one family, to fourth-class houses, containing one room and window, and inhabited by one family, or larger houses of the intermediate classes, inhabited by four or more families. In Dublin 5,000 families had the first-class accommodation, and nearly 26,000 families the fourth-class accommodation. The total number of families in Dublin was 58,000 odd. He had for the past twelve years taken a great interest in the condition of houses in the slums of the city, and, as physician to Cork-street and other fever hospitals, had large opportunity for investigating the houses from which fever patients came. The condition of the majority of the houses which he had carefully examined was now almost the same as when he began his labours. The reason was that the houses were beyond repair, and could never be rendered habitable. In the year 1871, Mr. Benson Baker, author of the “Sanitary Condition of Large Towns,” made an official report on the sanitary condition of Dublin, in which he notices that houses rated at £30 per annum let in tenements for £80, the owners of which ought to be able to afford the erection of suitable and necessary accommodation for their tenants. Mr. Baker added that he was agreeably surprised with the personal cleanliness of the poor in their dwellings, and that their condition compared favourably with that of the people in like circumstances in London. He (Dr. Grimshaw) thought that testimony most encouraging, as it showed that the material on which they had to work here was good. After quoting Dr. Mapother and J. Norwood, LL.D., in support of his statement as to the condition of the homes of the poor, he remarked in conclusion, that in diminishing any one of the evils of the present day the accompanying evils were also diminished, and that in the improvement of the health and morality of the people pauperism would suffer a serious blow.

The resolution, which was also supported by Mr. E. Dwyer Gray (the only member of the Corporation present) and Mr. J. F. Lombard, was then put to the meeting, and carried unanimously.

Sir James Power, Bart., moved—

“That the following do constitute a committee, with power to add to their number, to consider and report to an adjourned meeting the best means for carrying out the object expressed in the foregoing resolution, and that five members shall form a quorum:—Sir Arthur Guinness, Samuel F. Adair, Richard O. Armstrong, Wm. G. Brooke, Master Burke, Robert L. Dames, Dean Dickinson, David Drummond, Wm. Findlater, Robert O'B. Furlong, Major Geary, Dr. Grimshaw, Dr. Hayden, E. H. Kinahan, W. D. LaTouche, Richard Martin, James W. Murland, Mark S. O'Shaughnessy, Alex. Parker, Jonathan Pim, Joseph T. Pim, Robert Reeves, C. Uniacke Townshend, John R. Wigham, E. Dwyer Gray, and J. F. Lombard.”

Mr. Richard Martin briefly seconded the

resolution, which was adopted, and, after the usual vote of thanks to the chairman, the conference terminated.

THE LATE SIR WILLIAM WILDE.

SINCE our last issue the grave has closed over an Irishman whose loss will be deeply felt, and whose place it will be difficult to fill. The name of Dr. Wilde, as a professional and literary man, has been before the public for long years. For nearly forty years he has been adding to a reputation early attained, and maintained as well as strengthened up to the period of his demise. For little short of forty years he has been an honoured member of the Royal Irish Academy, filling the office of vice-president several times, and acting as the Academy's secretary of foreign correspondence for a period of twenty years. Looking back, we find him in 1840 visiting the East, and making his journey contributory to the interests of science and his profession. The account of his travels in the Holy Land was published in two volumes, well received, and still of great value. It is many years now since Dr. Wilde attained eminence as a skilful oculist; and his works alluded to contain some careful observations upon ophthalmia, &c. In Austria, as well as the East, Dr. Wilde utilised his time to the best advantage, studying her hospital systems, and gleaned other varied knowledge. He gave the public in due time an account of his sojourn in the latter country. Dr. Wilde performed during his career a large amount of literary labour—a far greater amount than what is suspected. He was an occasional contributor to many scientific journals, and several of his contributions have appeared in the *Dublin University Magazine* from time to time. His writings bearing upon Irish history and antiquities are pretty well known in this city. Among the most valuable of his services was the preparation of the interesting and indispensable catalogue of the Royal Irish Academy's museum. In 1864, he received the recognition of knighthood from the Earl of Carlisle, for his services in connection with statistical science—indeed his combined services won it for him. As a medical man, he enjoyed the honour of being Surgeon-Oculist in Ordinary to the Queen in Ireland, and he was a member of the Royal College of Surgeons, Ireland, and of several scientific societies, taking an active part betimes in their respective proceedings. In addition to his literary and professional avocations, Sir W. Wilde was for some years back one of the Census Commissioners. Some years ago, if we remember aright, a small volume was written by him in illustration of some passages in Swift's life, which he endeavoured to interpret and clear up. The artist Gabriel Beranger has had his history and labours in this country unearthed and told by Sir William; and obliging assistance and information has been given by him to other literary craftsmen.

Not long since, our lamented friend set before him the task of inducing his countrymen to erect a monument to perpetuate the names and fame of the Four Masters, annalists whose services should never be forgotten by Irishmen, no matter what their creed or class.

The career of Sir William Wilde was a distinguished one. He honoured literature and science, and his country and the Academy of which he was a brilliant member honoured him in return—he being a recipient of the Cunningham Medal.

At the last meeting of the Royal Irish Academy, a resolution was passed, which, though given elsewhere, will not be out of place in connection with this slight sketch:—

“That we desire to place on record our deep sense of the valuable services in the furtherance of the work of the Academy—especially in the promotion of Irish antiquarian researches—rendered by our late member Sir William Wilde; that, as a mark of respect for his memory, the Academy do now adjourn without proceeding to transact its private business; and that the secretary be requested

to convey to the family of Sir William Wilde our sincere condolence under the bereavement they have sustained."

Little more than a month ago, the deceased gentleman was attacked with a severe cold; acute bronchitis followed; and, though the best medical skill was availed of, he gradually sank, expiring on the evening of Wednesday week, at his residence, 1 Merrion-square North, at the age of 61. Sir William Wilde was the son of Dr. Wilde, of Castlereagh, Co. Roscommon.

The funeral of our late distinguished countryman took place on Saturday the 22nd ult., and it was one of the largest and most imposing witnessed for some years in this city. His remains were interred in Mount Jerome cemetery, the president and members of the Royal Irish Academy forming part of the cortege. We join with others in sincere regret for his loss, and in sympathy with his family. Apart from her bereavement, Lady Wilde throughout life has commanded and won respect and admiration for her genius. In common with her husband, she possessed great literary abilities, and used them in her earlier years in a cause she considered fitting. The "Young Ireland" school of politics and literature gave birth to poets and poetesses, statesmen and orators, soldiers and noble women. There was great sunshine in it, though there were also some deep shadows; but the *nom de plume* of Lady Wilde, the "Speranza" of that passionate era, will not be forgotten.

CE.

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

SOME strange notions were held by statesmen and writers in the last century on the advantages and disadvantages of inland navigation. In this country its rulers thought that they could see in the system of inland navigation a great means for assisting in the defence of the nation against a foreign foe. Quoth they:—"Troops can be transported from one end of the island to another in marvellous quick time." Some public writers, on the other hand, could see nothing but evil in the growth of Dublin and her new system of canals. From an article in a Dublin magazine of 1793, we extract the following:—"The true policy of increasing the population and riches of a country, is to have no extensive cities, but numerous small manufacturing towns, so that the produce of the soil may be as much as possible consumed where it grows. For, being brought a distance, the price is enhanced to the consumer; and, in consequence, the value of the manufactures increased, so as to render them less able to stand a competition in foreign markets. Besides, large cities, by draining the country of its produce, destroy small farmers and small towns—a circumstance which must inevitably injure population. Such, it is to be apprehended, will be the effect of the present system of enlarging Dublin and cutting canals from it. It may occasion great riches somewhere, but much poverty everywhere. And such seems to be the declining state of Britain. For that nation is in a rapid decay where its inhabitants consist of only the very rich and the very poor." There is some truth in the above sentences, particularly in the latter, reminding us forcibly of the lines of Goldsmith in "The Deserted Village":—

"Ill fares the land, to hastening ills a prey,
Where wealth accumulates, and men decay.
Princes and lords may flourish, or may fade;
A breath can make them, as a breath has made;
But a bold peasantry, their country's pride,
When once destroy'd, can never be supplied."

But now for further opinions upon the advantages of our inland navigation system. Hely Dutton, in 1802, in his "Observations on Mr. Archer's Statistical Survey of the County of Dublin," published under the auspices of the Royal Dublin Society, refers to the benefits, agriculturally and commercially, of an extensive system of inland navigation in this country, but particularly dwells upon the military aspect of the question. He

says:—"Ten thousand men might be conveyed from Athlone to Dublin, to Limerick, or to Waterford, or *vice versa*, together with their arms, baggage, and military stores, in one-fourth of the time which such an army would take to arrive at those places, even by forced marches; and, if conveyed by water, they would be fresh, and fit for immediate action as soon as they stepped on shore. And it is to be remarked that, as long as we possessed the interior of the country, an invading army could not avail itself of our navigations, as we could turn the water from the upper levels, and leave the bottoms of the canals dry; or, if we retired from the coast, we might, if we thought fit, destroy the locks in our retreat, after we had used them."

The reader of the present day must smile at the above remarks. Even if canals had never been superseded by the railway systems, they would have proved of little avail in a general war agitating the whole country. Domestic foes and foreign emissaries would soon take means of rendering the canals useless as a means of transporting troops. It is true, however, that, previous to the commencement of the Rebellion of 1798, quantities of military stores were conveyed by the canals as far as Athy on one line, and as Tullamore on the other; and we read that, when the French landed at Killala, Lord Cornwallis embarked a number of troops, with their baggage and military stores, at Dublin and Salins, and proceeded with them to Tullamore. This was the first trial made of the conveyance of a tolerably large number of troops by our canals. A contract at the same time was entered into with the company to hold a certain number of boats in readiness for the Irish Executive, for a sum of £900 per month—his Excellency seeming satisfied with the expediency of this system of conveying troops and military stores. The advent of the railway system, thirty years later, in a military point of view, knocked the canals on the head; but even now the railways, in time of a wide-spread warfare, would be of doubtful use, as they would need constant protection "along the line." When the railways were first agitated as a means of communication, they had their opponents like the canals. It was written and preached that they would destroy the country, beggar the small towns and villages; and several other disasters were foretold. The withdrawal of the stage and mail coaches, certainly led to the beggary of many small towns and villages for a time, several of which have not yet recovered. Some worthy farmers saw nothing but dire destruction in the puffing engine, which, they held, would set fire to their farmsteads, haggards, and stacks—rushing past vomiting sparks from its black funnel. As a matter-of-fact, the railway engine has been the means of consuming houses and haggards; but the farmers, as a class, never dreamt of the advantages that the railway system would soon put in their way, by creating ready markets for their produce. The canals are still useful, and the railways indispensable; and who among us would be content to go back to the slow carman system of fifty years ago, the canal barges, and fly-boats, the mail and the stage coaches?

A French writer in 1747, in an "Essay on the Study of Belles-Lettres," printed in Paris, accuses the English of deluging France with materialism and infidelity. Some years later, when the French Revolution broke out, England retorted by accusing France of the same crime in a greater degree. Who sowed the seeds first?—aye, that's the rub. 'Tis certain that many of our British dramatists, from the days of Shakspeare till the middle of the eighteenth century and later, pandered to indecency and vice, and that some of our so-called philosophers ventilated what must be called very infidel opinions. The French author alluded to writes:—"Not to speak of the unbridled liberty taken by their poets, it is well known the excessive length their philosophers have proceeded in the article of religion, as Hobbes, Locke, and Woolston. These have sapped

its foundations—the first with barefaced audacity, the others more indirectly and artfully. There is a secret connection between such authors in every country, and hence it is that France has been deluged with these odious books for above twenty years past, notwithstanding the vigilance of government that proscribes them. These works have found many eager to read them, and they have not only sown the seeds of, but brought to considerable maturity, a spirit of materialism and infidelity. After an experience of these unhappy effects, I do not hesitate to pronounce that no one ought to learn English unless it be indispensably necessary for the service of religion or the State."

It is well that we should see ourselves betimes as others see us or have seen us. It is not unlikely, indeed, that a portion of the harvest of infidelity which was reaped in France was the production of English seed. The continental soil appears to have been more rank than the English in later times at least, and the law weaker in France than with us. The liberty of the Press here enabled the good to combat the wicked, and the public were not dependent alone on the government, cleric and laymen in scores having used their pens in defence of religion. England now cannot compete openly with the school of loose French writers, philosophic materialists, and immoral but fascinating novelists. Were some wholesome restrictions for once renounced in Great Britain, it is a question if we would not have another fresher of immorality. As it is, veiled obscenity is prevalent enough, and materialism prominent enough, under the guise of scientific theories. Let us be just, therefore, to our French neighbours, for it may be possible in some matters we fail to see the bean in our own eyes, though we are ever ready to point out the mote in their's.

In his literary memoirs, Thomas Pennant, naturalist and antiquary, gives a curious reason why his visit to Ireland was not productive of a volume similar to his "Tours" in Scotland, and Wales, and through England. We may remark here that he was a Welshman by birth, having been born in Downing, in Flintshire, where also he died. He writes in his literary life:—"In the summer of 1754, I visited the hospitable kingdom of Ireland, and travelled from Dublin to Ballycastle, the Giants' Causeway, Coleraine, the extremity of the County Donegal, Londonderry, Strabane, Inniskillen, Galway, Limerick, the Lakes of Killarney, Kinsale, Cork, Cashel, Waterford, Kilkenny, Dublin. But such was the conviviality of the country, that my journal proved as *maigre* as my entertainment was *gras*—so it never was a dish fit to be offered to the public."

Whatever notes were taken on the way by Pennant would, however, at this date, if they still exist, be worth seeing, as they would afford us slight glimpses at least of the state of the chief towns the naturalist and antiquary passed through upwards of 120 years ago. In his other tours through the sister kingdoms, with the aid of the companion of his travels, he made a number of useful drawings of buildings and other objects; and he was very generous in giving his drawings for the use of his literary friends. Grose, the antiquary, who died in Dublin in 1791, obtained several of these, which he used in his "Antiquities of England;" and Hutchinson, who was also favoured by Pennant, made use of some of these in his "History of Durham." Pennant was a very voluminous writer, and almost the whole of his tours were performed on horseback. He considered the absolute resignation of one's person to the luxury of a carriage, to use his own words, to forebode a "very short interval between that and the vehicle which conveys us to our resting-place." On the Continent Pennant travelled and visited Voltaire, Buffon, Linnæus, and other celebrities of the day; and his literary activity continued up till his death.

Grose, who died shortly before Pennant,

was also liberal with his drawings. He visited the Isle of Man with Pennant and other antiquarian friends in 1774. Grose was a bosom friend of James Gandon, the architect; and both sleep in the one grave in the village churchyard of Drumcondra. Besides several other works, Grose was the author of the "Antiquities of England and Wales;" "A Treatise on Ancient Armour and Weapons;" "Military Antiquities;" "A Provincial Glossary;" "Rules for Drawing Caricatures;" "The Antiquities of Scotland." At the time of his death, he was engaged on the "Antiquities of Ireland."

After Grose's death, the Rev. Edward Ledwich undertook the historical and descriptive part of the deceased antiquary's work; and Lieutenant Grose, the nephew of the former, made a tour over a portion of the island to take plans and drawings. In a short sketch of Captain Grose, appearing anonymously in the *Dublin Chronicle* of the 25th May, 1791, but written by Joseph Cooper Walker, a native antiquary, among other matters, it is stated that—"And it is with pleasure the author adds that Ireland, with her wonted generosity and respect for literature, is now about to raise a monument to the memory of him who, had Heaven spared him a few months longer, would have eternized the venerable remains of her antiquities. A very beautiful model has been made for this purpose by the ingenious and celebrated architect Mr. Gandon, whose immortal works embellish this city in so superior a manner; and the Reverend Dean and Chapter of Christ Church have given leave to have it erected in their cathedral."

The sketch from which the above extract was taken, was re-published in the *Anthologia Hibernica*, in November, 1794. The monument spoken of, as far as our memory serves us, was never executed or erected in Christ Church Cathedral, though Gandon survived Grose upwards of thirty years. A plain, flat slab covers the remains of the antiquary and the architect in Drumcondra; but not a line was added on the stone at the burial of the latter to say that he sleeps his last long sleep in the grave of the former.

H.

DUBLIN SKETCHING CLUB EXHIBITION.

THE first public exhibition of this club in the Leinster Hall, Molesworth-street, is, on the whole, a very creditable one. The club was founded in 1874, for the purpose of bringing together artists and amateurs for social and friendly intercourse, and the practice of painting. The works of the members are disposed of in aid of the funds of a most deserving institution of old standing—"The Artists' General Benevolent Institution," founded in 1814. By such institution, distressed and meritorious artists, as well as their widows and orphans, have been assisted. The present exhibition consists, firstly, of a collection of the past and present season's club sketches, most of which have been executed at the working meetings of the club within the two hours allowed by the club rules; secondly, there are comprised in the exhibition a collection of sketches and studies, either from nature or purely ideal, by the members of the club and by artists of reputation. Several of the club sketches of the first and second seasons, considering the hasty mode of their execution, are remarkably clever; and among these noticeable are the sketches of Watkins, Jones, Fitzgerald, Burke, Pearsall, W. Rogers, and others.

The sketches of Mr. William Fitzgerald—who may be instanced rather as an amateur than a regularly-trained artist—are remarkable as efforts of happy and clever execution. The sketches of our architectural craftsmen,

Messrs. T. N. Deane, and T. Drew, R.H.A., are also noticeable.

The collection of sketches and studies from nature, is, however, the strongest part of the exhibition. Mr. Alfred Grey's pieces are excellent in their way, and exceedingly good also are those contributed by Mr. C. Watkins, R.H.A.; Mr. Augustus Burke, R.H.A., Dr. J. Moore, of Belfast; Mr. MacManus, R.H.A.; Admiral Beechy, Mr. Alexander Williams, Mr. Haywood Hardy, from London, Mr. Potter, and a few others. We have not space to particularise names and works in detail, many of which, however, are deserving of commendation. Mr. Edwin Hayes, R.H.A., sends over from London a collection of admirable sketches. The Sketching Club may be congratulated on the success of their exhibition as a display of Art; and we hope that, financially, it will also prove a success, for the object is a most deserving one. It will continue open during the present week also.

DEAR WILDE.

Dear Wilde, an ocean hides thee; and no more
Greet we or mingle on the hither shore,
Where other footsteps now must print the sand,
And other waiters by the margin stand.
Gone; and, alas! too late it wrings my breast,
The word unspoken, and the hand unpressed;
Yet will affection follow, and believe
The sentient spirit may the thought receive,
Though neither eye to eye the soul impart
Nor answering hand confess the unburthen'd heart.
Gone; and alone rests for me that I strive
In loyal lay to keep thy name alive,
Though nothing needing of the aids of rhyme,
While they who knew thee tread the ways of time,
And cherish, ere their race be also run,
Their memories of many a kindness done—
Of the quick look that caught the unspoken need
And back returned the hand's benignant deed
In help and healing, or with ardent high
Infused the might of patriot-sympathy.
And when we all have followed, and the last
Who loved thee living shall have also passed,—
This crumbling castle, from its basement swerved,
Thy plous under-pinning skill preserved;
That carved porch from ruined heaps anew
Dug out and dedicate by thee to view
Of wondrous modern men who stand amazed
To think their Irish fathers ever raised
Works worthy such a care; this sculptured cross
Thou gatheredst at piecemeal, every knop and boss
And dragon-twisted symbol, side by side
Laid, and to holy teachings re-applied;
Those noble jewels of the days gone by
The goldsmith's and the penman's art supply,
With rarest products of progressive man
Since civil life in Erin first began,
Described by thee, where'er their destined place,
Whether, still sharing Academic grace
And Cyclopædic union, they retain
Their portion in the high clear-aired domain
Of arc and sine and critic-judgments heard
Alternate with the searcher's symbol-word;
Historic aids, to little arts unknown,
Heirlooms of all our Past, and all our own;
Or whether, at despotic power's command,
They bow their beauty to a stranger's hand,
Mid various wares in halls remote displayed
To swell a programme or promote a trade,
These all will speak thee: and, dear Wilde, when these,
In course of time by swift or slow degrees,
Are also perished from the world, and gone,
The green grass of Roscommon will grow on;
And though our several works of hand and pen
Our names and memories be forgotten then,
Oft as the cattle in the dewy ray
Of tender morn, by Tusk or Castlereagh,
Crop the sweet herbage, or adown the vale
The ruddy milkmaid bears her evening pail;
Oft as the youth to meet his fair one flies
At labour's close, where sheltering hawthorns rise
By Suck's smooth margin; or the merry round
Of dancers foot it to the planxty's sound,
And some warm heart, matched with a mind serene,
Shall drink its full refreshment from the scene,
With thanks to God whose bounty brings to pass
That maids their sweethearts, and that kine their grass
Find by His care provided, and there rise
Soft and sweet thoughts for all beneath the skies,
Then, though unknown, thy spirit shall partake
Refreshment, too, for old communion's sake.

Oxford, 22nd April, 1876.

BOOKS RECEIVED.

How to Avoid Typhoid Fever and Allied Diseases. With Plain Rules on House Drainage, &c. By Arthur H. Downes, M.B., M.D. London: Bailliere, Tindall, and Cox.

This is an excellent manual on the subject indicated in the title, principally dealing with typhoid fever, which has been appropriately termed of late "filth disease." The little work is inscribed to John Simon, F.R.S., Medical Officer of her Majesty's Privy Council, a professional gentleman who for many years has rendered most useful service to the country in the direction followed by the author. After describing the origin and nature of typhoid, how generated and acting, or communicated, as far as is yet known, Mr. Downes proceeds to treat of the subject of prevention in a very clear and practical manner. The reader is given a clear exposition of sewage-polluted air, and the subject of house drainage in connection. For the general public particularly, Mr. Downes's manual will be found exceedingly useful. Valuable and indispensable information is given which ought to be acquired and profited by on the part of landlords and house-occupiers, for the former cannot hope to retain their tenants, and the latter to preserve their health, if the advice tendered in this book be systematically ignored. The best kinds of waste-pipes and soil-pipes are described and illustrated, the mode of their discharge and ventilation, and the preserving of them in proper working order. Useful advice and illustrations are also given in favour of "traps" and "trapping" common sewers, the escape of sewer gas, and, in fact, on mostly all the important matters connected with house drainage and the making of a healthy house.

There is an appendix added not less useful than the information which precedes it, telling how to isolate typhoid when it makes its appearance in a house; illustrations of the best method of closet construction and ventilation; and rules for the discovery of the sources of sewer odours escaping into a dwelling.

Though some particulars given in respect to drainage and sewer-gas have been previously described by other sanitary engineers and sanitary writers and reformers, still, as a whole, we can cordially recommend Mr. Downes's little work as a comprehensive though condensed one, and, in our opinion, reliable. It will be serviceable in the hands of medical officers of health and sanitary officials, as well as in the houses and hands of general readers.

Studies in Design, by Dr. Dresser.—Messrs. Cassell have forwarded up to part 18 of this work. It will shortly be completed, and will form a very useful work for artists and others.

The Alexandra Palace: Programme of Arrangements for Season 1876-7.—We have referred to this pamphlet in another portion of our present issue.

List of Members of the Institution of Civil Engineers of Ireland for year 1876.

The Timber Trades Journal.—The first number of the fourth volume of this journal is to hand as we go to press. It has been increased both in size and price.

NEW BUILDINGS, ROYAL COLLEGE OF SURGEONS.

THE first stone of the new buildings, which are to comprise a library, museum, &c., was laid on Saturday afternoon by his Grace the Lord Lieutenant. The President, Dr. E. Hamilton, delivered a lengthened address previous to handing the trowel to the noble Free-mason. Pressure on our space prevents us giving further particulars just now.

NOTES ON THE EARLY HISTORY OF
THE IRISH STAGE.*

Among the anecdotes told of Griffith, we quote one from the pages of Hitchcock, on the authority of Chetwood:—

"The 'Indian Emperor' being ordered on a sudden to be played, the part of Pizarro, a Spaniard, was wanting, which, with some difficulty, Mr. Griffith procured. Mr. Betterton being a little indisposed, would not venture out to rehearsal for fear of increasing his indisposition, to the disappointment of the audience. He, therefore, had not an opportunity of seeing our young gentleman rehearse; but when at night he came ready at the entrance, his ears were pierced with a voice not familiar to him; and casting his eyes upon the stage, he beheld the diminutive 'Pizarro' with a truncheon as large as himself. Astonished at his figure, he went up to old Downs, the prompter, and cried—'Zounds! Downs, what sucking scaramouch have you sent on there?' 'Oh, Sir,' replied Downs, 'he is good enough for a Spaniard; the part is small.' Betterton replied—'If he had made his eyebrows his whiskers, and each whisker a line, the part would be two lines too much for such a monkey in buskin.' Poor Griffith, who stood at the stage near the door, heard every syllable of this short dialogue, and by his fears knew who was meant by it; but, happily for him, he had no more to speak in that scene. When the first act was over, he went to make his excuse to Betterton, and said—'Indeed, sir, I had not taken the part, but that there was only I alone out of the play.' 'I, I,' replied Betterton, with a smile; 'but thou art but the tittle of an I. After this night, let me never see a truncheon in thy hand again, unless to stir the fire.'"

After this reproof, the buskin was laid aside and the sock embraced, and Griffith, as already mentioned, sustained throughout his theatrical career a respectable list of characters, "his light figure, pleasing address, and piercing eye" carrying him through with considerable advantage. In Nov. 1731, Mr. Griffith, accompanied by a Mr. Whyte from England, opened with a *ridotto* at the new music-hall just finished in Crow-street. Most of the nobility and gentry of the city, attended, we hear, on this occasion the hall being fitted up in "an elegant manner, the public entertainment—music and dancing—being in a superb style." Previous to this, *ridottos* were seldom seen in this country, but subsequently they became popular, and were often repeated with success.

About this time, a new tragedy was written by a Mr. James Darcy, entitled "Love and Ambition," and it was acted before a numerous audience, and honoured on the first night by the presence of the Duke of Dorset, then Lord Lieutenant. Though greeted with applause, Mr. Darcy's tragedy had not sufficient merit to keep long hold on the stage. After being repeated a few times, it seems to have been shelved for aye. The author, it appears from Hitchcock, had a benefit during the acting of the play, by which he reaped considerable emolument. Darcy's play was subsequently printed; but as it was not easily met with in Hitchcock's time, it may be well supposed a copy of it now would be a curiosity.

Shortly before Elrington's death, the Dublin Stage, under his management, had attained a respectable position, and actors and actresses began to be held in higher estimation. Thanks to the manager, who was himself highly honoured, his company participated in the respect accorded to him. Under the Duke of Dorset, the Dublin Theatre was encouraged—his lordship evidencing apparently a great fondness for the drama. Plays were ordered once or twice a week by the Viceroy; and on these command nights the theatre was always well filled by nobility and gentry in town. His lordship showed much partiality for Mr. Elrington, who often attended the levees at the Castle; and we

read that his lordship was present at several entertainments which Mr. Elrington gave at the "Cloysters," on Inns'-quay (the site of the old Dominican convent and the present Four Courts), to the Lord Chancellor, judges and other members of the bar—Elrington being the steward, as already mentioned, of the Inns of Court.

The year 1732 was marked by the death and great "support and soul of the Stage." The last character that the genial son-in-law of Ashbury performed was Lord Townley, in the "Provoked Husband," in a benefit for Mr. Vanderbank, an old actor of acknowledged reputation, and a favourite for several years in Dublin. This was on the 26th of June. A few days after, the hopeful Elrington was consulting an architect on a plan for building a new theatre in Longford-street (off Aungier-street), for some time in agitation. During the consultation, he was taken suddenly ill, and obliged to return home to his private residence in Drumcondra-lane (now Dorset-street). Instead of rallying, poor Elrington's illness increased, turning to a malignant fever; and, prostrated under it, he expired on July 22nd, 1732, at the early age of 44 years. Thomas Elrington was buried near to the grave of his father-in-law, Joseph Ashbury, in the old historic churchyard of St. Michan's, Church-street, where many clever men, and famous in their day, sleep, now almost unknown and unheeded. Hitchcock gives the following lines which were intended for his epitaph:—

"Thou best of actors, here interred,
No more thy charming voice is heard;
This grave thy corse contains.
Thy better part, which used to move
Our admiration and our love,
Has fled its sad remains.
Thou' there's no monumental brass
Thy sacred relics to encase,
Thou wondrous man of art,
Each lover of the muse divine
O Elrington! shall be thy shrine,
And carve thee in his heart!"

There are several anecdotes related of Elrington in his dramatic career, from his first essay until his last; and all his contemporaries speak well of him. Though a native of London by birth, where he was born in 1688, his highest successes are connected with the Dublin Stage, and the love he had for his adopted country and our people was strong. He was of a good family, and the younger brother of a numerous family. Elrington's father apprenticed his son when a lad to the trade of an upholsterer in Covent Garden; and it was here that Chetwood, who relates many anecdotes of our Dublin actor, first met him. Young Elrington disliked his trade, and loved the drama, and under difficulties worked and studied. Young Tom was often surprised by his master, who was a Frenchman, studying his part, or intended part, in a well-thumbed copy; and on one occasion the book, which was hurriedly thrust aside on the approach of his master, had to be irretrievably sewed up in the velvet cushion on which young Elrington was engaged. Detection was thus avoided, but Tom had to mourn over the loss of his book. Before entering for good upon the Stage, young Elrington played in several private theatricals; and during the last year of his apprenticeship the rigidity of his master softened somewhat, and the young actor performed often. It was through a Mr. Keene, a respectable actor of the time, that Elrington was brought upon the Stage, in part of "Oroonoko," in the year 1709. The reception he met determined his future career, and the Irish Stage shortly claimed him as her own. About 1712, Joseph Ashbury invited Elrington to Dublin; and before a year had elapsed, he had conquered success; and Ashbury was so well pleased with his character and acting, that he gave him his only daughter in marriage. There was a numerous family, and two of Elrington's sons—Joseph and Richard—took to the Stage, but neither of them developed the abilities of their father. The younger son, Thomas, named after his father, became a lieutenant in Colonel Flemming's regiment, and subsequently married a lady of fortune in the West Indies.

Hitchcock thus describes the *personnel* of Elrington: "He was an excellent actor, tall and well-proportioned; his voice was manly, strong, sweet, and full-toned; his action easy and graceful. He copied with success Mr. Verbruggen, one of the best actors of his time, in tragedy and genteel comedy. Elrington's 'Oroonoko' was one of the first pieces of acting ever seen. In his surprise, on unexpectedly meeting with Imoinda—a situation which calls for an actor of the greatest genius—he charmed all who saw his actions and heard his expressions. Davies says he has heard Macklin speak of Elrington's excellence in this scene with rapture. Barry, himself, was not equally happy in this superior lover. Mr. Elrington was also in 'Bajazet,' a fine copy of Verbruggen. When the managers of Drury-lane gave 'Bajazet' to Elrington in preference to Mills, the latter complained to Booth of his disgrace. Booth, in return, told him that Elrington would make nine such actors as Mills." While at Drury-lane, Elrington seems to have been treated with great coldness and rudeness by Cibber, who, it is said, could not, or would not, see his merit, and flatly refused to allow the actor to play in any part but that marked out for him by the management. Finding it impossible to get on under Cibber, who seemed determined to snub him for his own wise or jealous reasons, he bade good-bye to London, and enlisted under the banners of Ashbury, who could discern and appreciate his abilities.

When after performing for several years with great success in Dublin, we find Elrington invited over to London in consequence of the indisposition of Booth in 1729. He proved then to be the great prop of Drury-lane Theatre; and the managers were so convinced at last of his great importance that they offered Elrington his own terms if he would enter into an engagement for a number of years. The favourite of the Dublin public replied—"I am truly sensible of the value of your offer, but in Ireland I am so well rewarded for my services I cannot think of leaving it for any consideration. There's not a gentleman's house in that kingdom to which I am not a welcome visitant." This appears to have been the simple truth, for Elrington was universally respected throughout his Irish career, and died sincerely regretted by all ranks.

"It was in the old house" [Smock-alley] writes Dr. Doran, "that Elrington, the great support of Drury-lane when Booth was indisposed, ruled supreme in the hearts and homes of his enthusiastic admirers. His old patrons never forgot him."

Elrington equalled Booth in Oroonoko, and greatly excelled Mills in Zanga, although the latter actor was the original representative of the character. Dr. Young complimented Elrington after seeing him play Zanga, declaring that he never had seen the part done such justice to, Young holding that Mills did but growl and mouth the character. "Such was the actor Thomas Elrington," adds Dr. Doran, "who became for a time Booth's 'double,' and might have become his rival." And one who witnessed Elrington in his favourite part of 'Bajazet,' writes of him:—"I have known Tom Elrington in the part of 'Bajazet' to be heard all over the 'Blind Quay,' and I do not believe you could hear Barry or Mossop out of the house." A powerful voice, it would appear, was a great acquisition to an actor in the early days of Smock-alley Theatre. The Dublin youths were boisterous then, full of life and blood, and betimes longing for blood, for free fights were common between the Liberty and Ormond boys. The 'Blind Quay' often echoed and re-echoed to their wild shouts, and then, and afterwards for long years, the ditty was often heard that is now seldom heard, save in the mouth of some genial old octogenarian:—

"Where were you all the day
Watty Peters, Watty Peters?
Up and down the Blind-quay,
Sipping bitters, sipping bitters."

Thomas Elrington, we may add, was for

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* See ante.

nearly twenty years the ornament of the Irish Stage; and after his lamented death there was a perceptible decline for some time in theatrical matters in Dublin.

CORRESPONDENCE.

THE ROUND TOWERS, OR REED HOUSES.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—The letter of your correspondent, "A Munster Man," in your last number, gives the writers on the Round Towers a very hard nut to crack. I fancy that not many of them will answer his query. He asks if any explanation can be given why there is a large window above the door in some of the towers, and no window of the kind in the greater number of them; and which Round Tower is of the "true type"—the one with this window, or the one without it?

Dr. Petrie, who had minutely examined these structures, and who had read everything that had been written about them, did not know what to make of this window, or whether it was to be regarded as a window or as a second door. I must confess that, even for a long time after I had been convinced that these structures were early Christian baptisteries, I did not know what to make of it, or how to account for the absence of it in the greater number of the towers. It was a very simple sentence found in an obscure corner of an old book that put me on the trail.

In a letter published in your number of the 15th of March, I shewed that the door, large window, and internal arrangement of the Round Tower were borrowed from the description of Noah's Ark, which is a scriptural figure of baptism. That description was, of course, found in the Bible. But what was the first Bible used in Ireland? It was the Latin version called the old Italian Vulgate, which was a translation of the Septuagint. The author of this version is not known, but it is traced up to a very early period—perhaps to that of the Apostles; and, before the Vulgate of St. Jerome was adopted, it was in general use in all the countries of the Latin or Western Church. The Septuagint, from which it was derived, was that which, for the Old Testament, was in general use in the countries of the Greek or Eastern Church. It is well known that the Septuagint is a Greek version of the Old Testament, which was produced by learned Jews before the birth of Christ, at, it is believed, the request of one of the kings of Egypt, who was anxious to have it in his library. It was always held as of very high authority in the Christian Church, and from it the Apostles themselves quoted the ancient Scriptures.

Here now comes the point. In the directions given in the Septuagint for the construction of the Ark, there is no mention of the window, while there is mention of it in the Hebrew. Of course the old Italian Vulgate, which was a Latin version of the Septuagint for the Old Testament, and which was the first Bible used in Ireland, had no mention of it either. Hence the Round Towers, or Reed-houses, which were erected while that version was in use, have not this large or conspicuous window over the door, while it is in those that were erected after the adoption of the Vulgate of St. Jerome, which was translated from the Hebrew. The query of your correspondent is, therefore, answered by saying that the Round Tower without the large window is of the "true type," according to the Septuagint, and the first Bible used in Ireland; and the Round Tower having this window, is of the "true type," according to the Hebrew and the Vulgate, or version from the Hebrew, which was afterwards adopted, and is still in use.

This statement will be, perhaps, better understood and confirmed by giving the reading of the sixteenth verse of the sixth chapter of Genesis, as it is in the Hebrew, and as it is in the Septuagint. The Hebrew has—"A window thou shalt make in the Ark, and in a cubit thou shalt finish the top of it." It is

in the Latin of St. Jerome:—"Fenestram in arca facies, et in cubito consummabis summitatem ejus." The Septuagint has—"Binding together thou shalt make the Ark, and in a cubit thou shalt finish it above." It is in the Latin of Flaminius Nobilius—"Colligens facies arcam et in cubito consummabis eam desuper." (Walton's Polyglot). Those following the Hebrew understood that the top of the window was to terminate in an elbow or angle, and thus this large window in the Round Towers is angular-headed. Those following the Septuagint understood that the roof of the Ark was to be drawn up in an angle to throw off the heavy torrents of rain from that immense structure. Critics who have given the preference to the reading of the Septuagint, were of opinion that the Hebrew word *tsokar*, which is translated a window by some, and a light by others, was not in the Hebrew copies consulted by the authors of the Septuagint. On this large window or light in the Ark some Jewish rabbins have written very fanciful comments; but all commentators agree that, in addition to it, there were many small openings in the structure for the admission of light and air. The symbolism of the Reed-house has necessitated these remarks.

It is likely that the Round Towers [without the large window] were those that were first erected. It is sufficiently manifest from ecclesiastical history that, while the old version had the lead in point of time for a very long period, it and the Vulgate of St. Jerome were used side by side towards the end of the fifth century in many of the countries of the West. This corresponds perfectly with the age of the ancient baptisteries which continued in use to the beginning of the seventh century, and thus the difference of the window, as arising from the different versions, is in itself an important additional link in the chain of circumstantial evidence on which my theory is founded.

It was not by any rule or order promulgated on the subject that St. Jerome's version took the place of the old one. It was only gradually, by silent consent and general preference. For the sake of uniformity, the old version passed out of use, and only portions of it are now in existence. For instance, the psalms in St. Jerome's Vulgate are from the older version, for, as these were familiar to the ears and tongues of the faithful, he did not wish to change them. It is a curious fact, which perhaps many who use them are not aware of, that the psalms in the English Book of Common Prayer are a translation of the same old version. Another monument of it still lives in the chronology of ancient Irish historical records, such, for instance, as those from which the Four Masters compiled their Annals. Their chronology is that of the Septuagint and not of the Hebrew—a fact which demonstrates that our national records were compiled at a very early period, and that they have been copied with fidelity by subsequent transcribers. And yet, writers ignorant of these facts have blamed them for using that computation.

The symbolism of the baptismal structure was very varied and striking, especially in the early ages. There is in the South Kensington Museum a cast of a bronze pillar and baptismal font belonging to the Cathedral of Hildesheim in Saxony. They were erected in the nave of that church in the eleventh century. The round pillar is fifteen feet high, and two in diameter. On it are many figures, symbolical of baptism, and it had an ornamental cap and cross on the top. At the base of the font, and as supporters of it, are four kneeling figures in opposite directions, symbolical of the four sacred rivers of Paradise, and of the four winds or four quarters of the globe, as borrowed from various passages of Scripture, and especially from Ezechiel, chap. 37, v. 9, "Come, spirit, from the four winds and blow upon these slain, and let them live again." The four windows of the Round Tower, and the four human heads over the windows of Devenish Round Tower, have the same symbolic meaning. The tall graceful pillar attached to the font

of Hildesheim was manifestly the reed, the emblem of St. John the Baptist.

I have trespassed much on your space, but you will allow me to say a word on the present condition of our Round Towers. They are declared to be National Monuments, and placed under the protection of the State. But are they all to remain in their present condition? Is the old conical head to be placed on none of them? Is that work, like the patriot's epitaph, to remain undone till Ireland is mistress of her own destinies? The epitaph can wait, and perhaps not be injured by the delay, but not so the Round Towers,—they are every day contracting injury and disease from exposure to wind, rain, and weather. Some of them are so enfeebled now as to be unable to carry the old conical roof, but others, such as the noble hexagonal Tower of Keneigh, could carry it, and with it, if protected by a lightning-guard from their old enemy, they would, like the Pyramids of Egypt, "live for ever." Let no timid hesitation about putting on the cross be allowed to come in the way of this improvement. Petrie—a good authority, and surely unprejudiced—says that the conical head terminated in a small stone cross. There can be no objection now to the cross in any quarter. It even surmounts the great Albert Memorial in London. It is a graceful emblem, and, of course, is full of deep symbolic meaning. If the Round Tower of Keneigh had its old conical head placed on it, it would be a noble national monument in the midst of that wild country, and many would travel miles on foot to have a look at it, with something like the feelings of the old sailor of Queenstown, who on his death-bed requested to be carried to a point from which he could see the first steamer which, "with nothing but a column of smoke," was sailing along the coast against wind and tide.—Very truly yours,

RICHARD SMIDDY.

Aghada, Rostellan, Co. Cork.

THE LATE SAMUEL FERRIS LYNN, SCULPTOR.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—In your notice of the death of this gentleman, whose premature demise is a great loss to art, there is an error as to his birth-place. Fethard, near which was his father's residence, is in Wexford, not Wicklow. Mr. Lynn was on the Continent, and contracted an illness which terminated fatally immediately after his arrival at the house of his brother, Mr. W. H. Lynn, architect, Belfast. A WEXFORD MAN.

HANDICRAFT AND HANDICRAFT TOOLS.

(Continued from page 110.)

ON ADZES.

Those whose business requires the forming of lengths of wood into curved shapes, and who rely upon the adze for the preliminary operation, use an Indian form of adze. In India it is held so near the metal that the workman's hand touches the metal. He accomplishes blows chiefly by acting from the elbow. This very general mode of holding gives a pretty uniform length to the radius of the swing, hence the form of the adze in the plane of the swing is nearly that of the circle described. The angle of the handle and the adze is very much the same as that of the handle of the file-maker's hammer and the head.

The Two-Handled Adze.—When we look at the adze as used by English wheelwrights or shipwrights, we may well shudder to see how it is handled, especially when the cutting edge is taken into account. The operation, briefly described, is the following:—The workman stands with one foot upon the wood, this foot being in the line of the fibre. He thus assists in steadying (say) the fellow of a wheel. From this fellow much of the wood on which the sole of his shoe rests has to be removed. It will be noticed that the

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long handle of the adze is curved—the object of this is to permit an efficient blow to be given, and the instrument brought to a stop before the handle strikes any part of the workman's body; in fact, caused to stop by the exhaustion of its impact energy in and amongst the fibres of wood to be separated. The edge is often so keen as to cut through a horse-hair held at one end and pressed against it. This instrument is raised by both hands until nearly in a horizontal position, and then not simply allowed to fall, but steadily driven downwards until the curved metal, with its broad and sharp edge, enters near to, if not below the sole of the workman's shoe, separating a large flake of wood from the mass; the handle is rapidly raised and the blows repeated. This is done with frequency, the workman gradually receding his foot until the end flakes of wood are separated. It is fearful to contemplate an error of judgment or an unsteady blow. William Tell and the apple on his son's head are, in another form, here repeated. So skilled do men become in thus using the adze, that some will undertake, with any pre-determined stroke in a series, to split their shoe sole in two.

Curvature of Adze.—Clearly the adze must be sharpened from the inside, and when the action of it is considered, it is also clear that the curvature of the adze-iron must be circular, or nearly so. The true curvature of the metal may be approximately deduced from considering the radius of the circle described by the workman's arms, and the handle of the adze. The edge of the adze is convex, the projection in the middle being so formed for the same reasons as influenced the curvature of the edge of the axe already alluded to. The curvature in the blade also serves (though partially) as a fulcrum, for, by slightly thrusting the handle from him, the workman may release such flakes of timber as are over the adze, and yet so slightly adherent as not to require another blow. Thus the adze when applied lever-fashion discharges its duty as the curvature in the claw of a hammer does.

Many of the remarks applied to axes and adzes, also apply to pick-axes. It may suffice to refer to two forms of this tool; they differ not so much in the operative points, as in the size and distribution of the material.

The one used by paviours is long and light, and of large curvature; the other, used by stonemasons and quarrymen, is short-handled and heavy, much material being concentrated in the head. There is also another form of this instrument used on kegs, for the purpose of driving home the wooden wedges; in this form there is no point, the tool is rather that of an elongated hammer, the ends being provided with "panes" of different forms, set off at different angles. Such tools may properly be consigned to the class of hammers.

The paviour's, the mason's, and the quarryman's picks are the three to be very briefly considered. The first is properly a lever and no more; its pointed end is for entrance between stones, and then the wooden handle, and the unemployed elevated arm of the pick, are used as two lever arms at right angles to each other, thus motion can be had in two planes for the varying character of the paviour's work.

Such an employment is never allotted to the stone-mason's pick. The object of this is to remove chippings from stone much as the single angled edge of an axe or an adze would do with chips from timber. It is, however, pointed and not edged, because stones are not fibrous. The weight of the iron head corresponds exactly with that of a heavy hammer, and so far as this particular feature is concerned, the considerations in relation to hammers apply.

There are peculiarities in reference to the points of these tools. The whole of the energy of the workman is expended upon one point (in the carpenter's axe or the wheelwright's adze this energy is distributed over an edge from 4 to 8 in. in length), hence the rapid wear of this point, and the necessity not of frequent grinding, but of frequent re-

forging and re-tempering. Any attempt at grinding up these points would be practically unsuccessful, made as these picks usually are, because of the mass of metal required to give that penetration resulting from the sudden stoppage of heavy weights. The ordinary picks are therefore sent to the smith's to be sharpened. For this purpose they must be removed from the handle; and this has suggested forms of eye and handle which might with advantage be used with other tools.

The axes and adzes hitherto considered have been chiefly regarded as tools for the greatest amount of heavy work to be accomplished by a workman. They are at one extreme of the scale, the other extreme being the removal of such small flakes as to become shavings of varying thickness. In progressing from great to small the order would be from the axe or adze, with its weighted head, to a separation of the cutting edge and its necessary metal, and the weight which must give the blow. Hence, in this descending scale, we reach the chisel, struck by a mallet.

The chisel in its most simple form is as a slice of an axe, but as the impact is not from the motion of the chisel, but from that of a swung mallet or hammer, the eye of the axe must give way to the contrivance for receiving the blow. When the element of thrust enters then the chisel is passing into the "plane iron." Beside the mushroom form of head made in the metal of the stonemason's chisel, two contrivances are in general use in England. One is to put a tang on the metal of the chisel, and to let this be driven into a handle so shaped at the extremity as to receive the blow of a mallet. A very few blows would soon drive the handle forward, and so the tang end would soon project through the handle and receive the blows. To avert this a shoulder is forged, where the tang is supposed to end, and the chisel proper to begin. When the blows have been repeated, so that the handle rests upon the tang shoulder, then the handle is "home," and the tool completed. In the turner's chisels, where mallets are not used, the shouldered tang is not required. The plan thus described is not, however, the way in which handles are put on tang-ended chisels.

Assume that a suitable handle has been formed—and what constitutes a suitable handle is worthy of consideration—assume too that a ferrule has been suitably placed on the handle, not, however, driven on, but left somewhat loosely—assume, too, that a hole has been bored down the handle and a little shallower than the length of the tang—assume, too, that the hole has been widened at its mouth so as to show a square, the sides of which are just shorter than those of the tang under the ferrule—now, enter the chisel-tang, and let it be pressed in by the hand until it is so retained by friction, that by pointing the chisel edge downwards, the metal does not fall out. The operation of fixing the handle may now be said to commence. The line of the handle and blade is then inclined at about an angle of 45° to the horizon. A blow with a mallet is struck at the end of the handle: the inclination remaining the same, the tool is turned round its longitudinal axis, say, one-fourth of a rotation, another blow given; the operation of turning and striking being continued until the ferruled end of the handle and tang meet.

As to the effects of a blow upon the end of a handle, there being no apparent resistance. This takes place: The velocity of impact is communicated to the handle and chisel. Now, as may be noticed in the case of a horse commencing to draw a carriage, the greatest effort is required to cause the first motion, so here a high velocity in the mallet has to be divided between a supported tool and itself. What is sometimes called "inertia" has to be overcome in the act of this transference of velocity through the length of the handle and chisel; that portion which offers the least resistance will be the first to move. As with a cord, no strength can stretch it into a straight line, so with this

so-called "inertia," no velocity can be communicated to a body at rest without what is usually called resistance. The friction between the tang and the handle is so adjusted by the preliminary formation of the hole, that the resistance from the friction is less than the resistance from inertia; hence the gradual approach of the ferrule and the flange.

Now as to the turning in the hand about the axial line. The wooden handle is held in the left hand, therefore the effect of gravity upon it is neutralised. Not so with the chisel; gravity produces its full effect upon this. What is the consequence? Some part or other of the hole becomes a fulcrum, the cutting end of the chisel is drawn downwards by gravity, and therefore the tang end is pointed upwards. Continued impact in this position would place the chisel oblique to the axis of the handle; the turning is to avert this. Again, it was said that the depth of the hole should be less than the length of the tang. The reason is this: the end of the hole is of greater diameter than the end of the tang; if, therefore, the tang does not enter and fix itself in the wood, there may be unsteadiness in the chisel. Again assume the instrument to be under the operation of repeated blows, the effect of these will be first expended upon the end of the wooden handle, and then transmitted to the cutting edge. Unless provision be made, the destruction of the end of the wooden handle will be assured. To diminish as much as possible liabilities to such a result, the end of the handle is formed as a portion of a sphere. Further, the impact blow is modified in the mallet, which is of wood, with a curvilinear face; thus these two wooden surfaces act and re-act upon each other. The yielding elasticity of the wood also gives to the blow and so transmits to the work a different effect to that which would take place if the handle and chisel were of iron, as is the case with those used by workers in the metals. In these the blows being struck by a metal hammer the chisel heads are neither wooden, as with the carpenter, nor mushroom shaped, as with the stonemason.

There is another mode of attaching the handle to the metal, viz., the forging on the chisel of a coned socket, into which the wooden handle is inserted. This is the best plan when the instrument is to be subjected to heavy blows, because the wooden handle is blow by blow more solidified, and to some extent the fibres of the wood are condensed into this cone, and remain available much longer than upon the tang scheme. The latter, however, adds to the lightness and economy of the tool, and may be considered as most suitable for chisels when used in a way furthest removed from the usages of hatchets. This way will be when the work is so light that impact gives place to a thrust.

(To be continued.)

THE ROYAL HISTORICAL AND ARCHÆOLOGICAL ASSOCIATION OF IRELAND.

THE adjourned quarterly meeting of this Association was held on Wednesday, 12th ult., at Butler House, Kilkenny,

The Rev. CHARLES VIGNOLES in the chair.

The following were elected members:—Graham Lemon, Henry Robertson, George Hannigan, Philip H. Bagenal, W. Ormsby Weir, M.D.; Fearon Ranking, B.A.; Rev. J. Power, C.C., and H. Considine.

The Rev. James Graves announced the receipt of several volumes of books presented by various learned societies. Mrs. Prim, widow of the late Mr. John G. A. Prim, sent several articles of accoutrements belonging to the old Kilkenny Legion, with the roll of the company, commanded by Colonel the Hon. James Butler, afterwards Lord Ormonde, grandfather of the present marquis. A curious stone, which had been in the possession of the late Mr. Prim, and which was found embedded in a skull, was sent in on the part of Mr. Lewis Kinchela, who found it

on his land. Mr. John Love, Annagh Castle, presented the head of an old javelin, which was bent, and it was surmised that it was so bent whilst employed in killing somebody. This curiosity found at Crova Castle, Lough Sheelan, Co. Cavan. An Ogham stone, found in a cairn, on the top of Toped Mountain, in Co. Fermanagh, was presented. Ogham inscriptions have been found in various parts of Ireland, but never so far north before. A paper connected with this discovery was brought before last January meeting. Mr. Browne, manager of the National Bank, Roscrea, sent in thirteen articles, making an interesting collection of bone pins. The interest connected with these pins is not that they are made of bone, for there are hundreds such in the Royal Irish Academy, but that they have inscriptions—some Runic and others Ogham—on the stems and heads. The Rev. J. Graves had consulted the best authorities on the matter, and they concluded some of the inscriptions to be Runic.

Mr. Robertson said that there was some doubt about that. It was thought these were only marks of proprietorship.

The Rev. J. Graves said that it was possible the inscriptions denoted proprietorship, but that the inscriptions were Runic or Ogham there was no doubt. There was a nodule of iron ore, which also had an inscription, but it was not read yet, and an amulet found in the same place. The age of these could not be told—some of them were of an early period, and others of a comparatively late period. These articles had all been found in a cranage, at Ballinderry, near Moate, in the county Westmeath. With regard to a tumulus or burial-chamber reported upon by the Rev. Mr. White, in which human bones had been discovered, Mr. Hill, county surveyor for Clare, sent a drawing and description of the place. Mr. Hill's report was as follows:—

Cairn, in the townland of Ballyneilan, parish of Kilmamona, and county of Clare. The cairn is about $3\frac{1}{2}$ miles from Ennis, and 100 yards to the south of the road leading to Ennistymon. It is on the side of a hill, in a limestone, rocky, pasture district, and is formed of the field stones of the adjoining land. It is evident, from examination of the portions undisturbed, that the stones were carefully hand-laid and closely packed. It is not marked on the Ordnance maps, although the old house adjoining it, and there is no tradition regarding it in the neighbourhood, and was not noticed except as a heap of stones. Last summer the owner, Mr. William Kenny, of Craleigh, gave permission to take stones from the heap for the repairs of the adjoining road, and a portion was drawn away for that purpose. When doing so the workmen discovered the chamber with human remains, and immediately desisted. The skull and a portion of the bones found were sent to the Association by the Rev. P. White, Ennis, but there are some bones still remaining. Accompanying this is an elevation, plan, and section of the cairn, showing the position of the chamber, which is an irregular hexagon, the sides formed of rough limestone flags on edge, and roofed with limestone flags and other rough stones, fixed securely but very rudely. The bottom is levelled, and is composed of clay. The stones of the cairn over the chamber, and for about four feet in addition all round, are mixed with clay, completely filling the interstices. There is no clay mixed with the stones in the remainder. There are two rough stones in the chamber evidently used as props against two of the flags forming the *risers*, to prevent them falling in, but there is no inscription or artificial mark on any of the stones or flags. The old house adjoining has neither fire-place nor chimney to be seen. It has not been inhabited in the memory of any one living in the neighbourhood.

The Rev. J. Graves also mentioned that Mr. Robert Armstrong, a member of the Association, wrote the following letter:—

London, February 24th, 1876.

REV. SIR,—I am sending a few things to the museum of your Society which may possibly interest some of your members. The first is a piece of painted linen, representing a review of the Irish Volunteers in the Phoenix Park, Dublin. Their commander-in-chief, the Earl of Charlemont, appears to be riding down the line, and the troops are presenting arms as he passes. The building is the Lodge of the Chief Secretary, and the carriages are probably those of the Earls of Charlemont and Moira. I also send a little book of instructions for

the drill "Manual and Platoon Exercise," which appears to have been published about the time the Volunteers were raised. The copper-plate with "B. V." and "First Company" was probably a portion of a cartridge-box belonging to a private of the Volunteers.

The Rev. Graves said that there was a good deal of humour in the piece. The perspective was curious, or, rather, there was no perspective. The old Lodge for the Chief Secretary must have been a different one to that of the present day; there were published prints of the Volunteers, but pictures of them were exceedingly rare.

The following letter was read:—

Kilbolan Cottage, Charleville.

REV. SIR,—I beg to apprise you of some recent archaeological discoveries here, which may prove interesting to your Association. In February of this year a labourer engaged drain-making in the townland of Bunmona, or Maine north, in this parish, came upon a very fine bronze celt, similar to what is figured as the "Palstave Celt" in Miss Cusack's "History of Ireland," at p. 224, with the exception that, whereas two rings are shown in the engraving, there was but one ring on this one. It is about $5\frac{1}{2}$ in. long, and weighs $14\frac{1}{2}$ oz. The ring was unfortunately knocked off by the finder. It was purchased by the Royal Irish Academy, and is now among their collection. The second article is a bronze sword, a full-sized sketch of which I append. It was found by Mr. Stephen Creagh, on his farm at Kilmore (also in this parish) about 20 years ago, by whose son it was recently presented to me on his learning that I was engaged collecting such curiosities. It is 20 in. long, and weighs two pounds. It has three holes just above the haft—two at one side and one at the opposite. Beneath the latter, and nearer to the haft, is what appears to be a blank hole—that is, a hole partially bored. The sword is very sharp. Both the appended drawings were taken by placing the celt and sword on two respective sheets of paper. The outline was thus easily taken, and afterwards the space filled in.

The Rev. J. Graves next read a long and interesting paper from Mr. W. F. Wakeman, descriptive of the "Cranogs" of Drumdaragh, otherwise Trillick, and Lankville, Co. Fermanagh. Lake dwellings had attracted great attention, especially on the Continent. In the northern parts of Ireland a great many are still unexplored.

Mr. Robertson, in reference to the skull of a great Irish elk in the museum, said that he had examined several in Kilkenny Castle, but this was not like those in the Castle.

A vote of thanks was passed to the exhibitors and donors, and the meeting adjourned till the first Wednesday in July.

"ONLY" A BELFAST MAN.

IN our last issue we gave some brief account of the life of the great American millionaire, Alexander T. Stewart. The New York correspondent of the London *Telegraph* furnishes some interesting particulars somewhat lengthy but very interesting withal, and worth reproduction. Let people say what they will of the dead millionaire and American citizen, he was a most remarkable Irishman. Writing from New York on the 14th ult., the "Our Own Correspondent" thus begins:—

In his seventy-third year, our "merchant prince," the greatest dry-goods dealer in America, if not in the world, died on Monday—died with the yard-stick in his hand, the possessor of enormous wealth. To the last he devoted himself to the details of his business as assiduously as though he were struggling for his daily bread. The grave is not yet closed upon him, and already he is virtually forgotten. Only one source of interest in regard to him remains open, and that relates to the testamentary disposition of the riches he was compelled to leave behind him.

Alexander Turney Stewart was born in the neighbourhood of the city of Belfast, and his family, which were of Scottish extraction, were thrifty and comparatively well-to-do. An orphan at an early age, his education was directed by his paternal grandfather, who sent him to Trinity College, Dublin, with the view of training him for the Established Church. The death of his grandfather not only upset this plan, but placed him in possession of a little money, and transferred the guardianship of

his welfare to a Quaker friend. The youth turned his face westward, and, furnished with good letters of introduction, soon afterwards sailed for New York. Scholastic in his tastes, and with no knowledge whatever of business, he obtained a situation as teacher in a school, and in this capacity spent two or three years. He had private pupils, some of whom are now living, to whom he taught writing and arithmetic, and he helped the present Secretary of State to acquire what he knows of the rudiments of Latin and Greek. To advice that he should go into trade, young Stewart for some time turned a deaf ear, but being called back to Ireland to receive a legacy of £1,000, he yielded to the suggestion of a friend, and invested a large part of the money in laces and "insertions," which he bought in Belfast, putting the remainder into a small miscellaneous stock of dry goods. He brought the stock to New York, and in a tiny shop—some 12 feet frontage and 25 feet in depth—he made his start as a business man. He was his own salesman, book-keeper, and porter. He was so little acquainted with his trade that when asked for hose he did not know that stockings were meant, and from more stylish customers he gathered the names of articles which he saw upon them and he desired to add to his stock. He prospered, however, and moved into a larger shop in the same vicinity, near the City Hall Park. He bought job lots at auction; married, and lived in a single room over his shop; and when the day's business was over he and his wife worked through half the night sorting the stock and presenting it to the best advantage. Again he prospered and again he moved, this time into premises capacious enough for a growing trade. Here he accumulated what at the time was deemed a competency. The panic of 1837, which swept away numbers of his neighbours, left him unharmed. In 1848 he built the large marble store on Broadway and Chambers-street, and combined the wholesale with the retail trade. A few years later the exigencies of a business to the expansion of which there seemed no limit, compelled him to separate the branches, and for the retail department he built the immense structure on Broadway, from Ninth to Tenth-street, and extending to the Fourth-avenue. It covers an area of two and a quarter acres, is eight storeys in height, and it cost nearly three millions of dollars. In the two establishments about 2,000 persons are employed, the annual current expenses are set down at a million, and the value of goods sold has in recent years averaged 50,000,000 dollars.

These stores, vast as they are, represent but a small part of Mr. Stewart's business. He owned a silk manufactory in this city, and woollen, cotton, and thread mills in various parts of this and other Eastern States. As among them may be mentioned the Mohawk and Elbow Mills, at Little Falls; the New York Mills, at Holyoke; the Woodward Mills at Woodstock; the Yantic Mills, in New Jersey; the Washington Mills, at New Hartford; the woollen mills, at Catskill and Waterville. In addition, he took the entire product of other manufactories, including that of a Canadian woollen mill, just as he got into his own hands the whole stock of Alexandre gloves sent to this country. His agencies in England are at Manchester, Bradford, Nottingham; in Scotland, at Glasgow; in Ireland, at Belfast; in France, at Paris and Lyons; in Germany, at Berlin and Chemnitz. His pay-roll numbers about 7,000 persons, and the whole machinery of the business here and abroad will be once more in motion under the direction of Judge Hilton, to whom Mr. Stewart has entrusted the management of his affairs, and of Mr. Libby, the sole surviving partner in the business. His real estate in this city alone is valued at more than 10,000,000 dols. How much he had elsewhere it is impossible even to guess. His title-deeds and the papers connected with them fill six large chests, and the property, Judge Hilton says, is scattered over both Europe and America. The conjectures in reference to the total of his wealth range from fifty to two hundred millions of dollars, but they are manifestly unworthy of serious attention. Time must be left to disclose the truth. He began the day in his retail store immediately after breakfast, and traversed every one of its capacious floors, his eye taking in the smallest details, and his pursuit of economy extending to the paper and twine used in the making up of parcels. He would rebuke a salesman for wasting a yard of string, and laid down a code of laws vexatious in its fines and rigid in its administration. The employes, male and female, on leaving the premises passed before the skilled eye of a detective. From the retail store he soon went to his wholesale place of business, where he remained until six in the evening. This was the routine of the rich man's life. He was a hard task-master to the clerks and workpeople about him. The chiefs he paid liberally; to the rank-and-file he gave the lowest market price for the service they rendered. He neither sought nor got their

love. And yet he was a just man according to the strict letter of the law. What he covenanted to pay he paid; what he was entitled to receive he exacted to the last cent. The clerk who told a lie to effect a sale was instantly dismissed. The builder who contracted to erect his marble palace on Fifth-avenue found his calculations upset by the rapid rise in labour and materials; but Mr. Stewart would not reopen the bargain, and the poor builder was driven into bankruptcy and the grave. Although not a charitable man in the common acceptance of the term, Mr. Stewart did two or three notable things in the way of benevolence. The ship freighted with food which he sent to Ireland during the famine, bringing back a load of young men and women for whom he had provided employment; the gift of 10,000 dollars to the Lancashire operatives in 1862; the 100,000 dollars he sent to the Sanitary Commission during the Civil War; the other 100,000 dollars which he gave Chicago for the relief of certain classes of sufferers from the great fire—these are bright spots in the career of one of whom the multitude now speak harshly. As an illustration both of the burdens borne in this country and of the extent of Mr. Stewart's contributions to the City Treasury, it may be added that the taxes on his personal property last year amounted to 88,200 dollars, and on his New York real estate to 180,392 dollars.

His will, filed in the Surrogate's Office, disposes of his enormous property in very simple fashion. To Judge Hilton, in whose hands the chief management of the estate is left, it gives a million of dollars. Twelve of his principal business employés receive among them 100,000 dollars; his wife's relatives among them 60,000; his domestic servants, 15,500; small legacies are given to subordinates who have been long employed in his establishment, and a few thousands are divided among four friends. That is all. All else goes absolutely to Mrs. Stewart. Not a dollar is set aside for charities, for art, for education, for any public purpose whatever. The will was executed in March, 1873, and in a letter attached to it, addressed to his wife, the deceased refers to an "intention to make provision for various public charities," and expresses the hope that "my life may be spared, so that I may complete the various plans for the welfare of our fellow-beings which I have already initiated;" but, "should it be ruled otherwise," he relies on his wife to supply all deficiencies on his part, and to carry out what, he says, he had begun. He also requests her to consider the claims of those who have served him well in his business and otherwise, and for whom the will makes no special provision. What the various benevolent plans referred to are, no one knows, save and except the unfinished Working Women's Home. None else has been heard of. How far the widow will give effect to the vague suggestions of philanthropy entertained by Mr. Stewart three years ago remains to be seen. In the meantime, the will is the subject of much uncomplimentary criticism. Some of the expressions which occur in the document indicate a gradual withdrawal of the Stewart interest from the business. As the concern involves many millions, some large joint-stock organisation would seem to be the only feasible method of carrying on an enterprise to whose financial requirements few individual capitalists are equal.

THE HEALTH OF DUBLIN.

"Doctors differ."—Old Proverb.

A DISCUSSION has been going on in the daily Press about the death-rate of Dublin, on the head of the report presented to the Public Health Committee by Professor Cameron, the City Analyst. In reply to a criticism throwing some doubts on the accuracy of his report, the Professor writes:—

I distinctly stated that there is a vast amount of sanitary work to be accomplished in Dublin, and I further stated that the death-rate in the city and county of Dublin is very high. It is only from statistical data that we can ascertain whether or not our bills of mortality are greater than they should be; but we should take care to interpret our statistical facts correctly. It is a statistical fact that in 1875 the deaths registered in Dublin city were at the rate of 28·8 per 1,000 persons; whilst in the townships the deaths were at the rate of 20·1 per 1,000. This would appear to prove that Dublin was in a far worse sanitary condition than its suburbs, but when the vital statistics of the whole district are studied here is what appears from them:—

1. That 31 per cent. of all the deaths in the Dublin registration district occur in workhouses, and hospitals, and asylums, which, with trifling exceptions, are situated in Dublin.

2. That the population of a purely rural district

amounting to 44,580 persons have these workhouses and hospitals in Dublin city, as have also a township population of 42,697.

3. That, with the exception of two hospitals in the suburbs, the population of the city, the townships, and a portion of the county, numbering 359,246, are dependent altogether upon Dublin hospitals, and the deaths therein are charged to the city, with its population of only 246,326.

4. That when the deaths which occur in workhouses, &c., are not taken into account, the mortality in Dublin and adjacent districts is as follows: Deaths per 1,000, average—Dublin City, 19·3; Pembroke Township, 19·1; Rathmines, 21; Blackrock, 18·9; Kingstown, 16·8; Balrothery Union, county Dublin, 21·9.

In English towns it is customary to charge to the populations the deaths belonging to them wherever those deaths occur. The Manchester workhouse is situated in the country, but its deaths are charged not to the district in which they occur but to the city. The deaths which occur in the Dublin workhouses belong to a population of 333,603, but they are all charged upon the city population of 246,326. That Dublin is healthier than it was in 1851 is clear from the fact that with 12,043 fewer inhabitants in 1871, there were in that year 39,290 persons aged 50 years and upwards, as against 33,926 in 1851. In conclusion, I may add that if the death-rate in Dublin was 27 per 1,000 in 1871, it was equally high in Limerick, and 29 per 1,000 in Cork and Belfast, and more than 30 in many English towns."

An "Hospital Physician" goes to the trouble of dissecting in detail the City Analyst's report. We give some extracts and the summing-up:—

It is a remarkable fact that while the opinions of the medical sanitary officers of the city are still held back by the Public Health Committee, that Dr. Cameron's report, which bears evidence of hasty compilation and imperfect investigation, should at once be published. Dr. Mapother having failed to explain, and the medical sanitary officers having given an unpleasantly true explanation of the causes of the high death-rate of Dublin, the Public Health Committee have employed one of their officers to prove that it is not high at all. Dr. Cameron dealt with "some fallacies in the present method of calculating the death-rate of Dublin," but unfortunately Dr. Cameron has fallen into a regular quagmire of fallacies himself, and has also committed the common error of special advocates of a bad case—namely, the proving of too much.

Dr. Cameron attempts to knock off from the Dublin death-rate all deaths in public institutions. Does the learned doctor not know very well that the majority of those who die in public institutions in Dublin are Dublin people? Dr. Cameron apologises for the high death-rate of Dublin on the following grounds:—That persons not belonging to Dublin die—1st, in hospitals; 2nd, in lunatic asylums; 3rd, in gaols; 4th, in workhouses; and 5th, in other public institutions; next, the effect of immigration.

Dr. Cameron seems to have mixed up and lumped all his statistics in a most incomprehensible way. For the benefit of your readers I shall try to give a true correction of the Dublin death-rate. I must first premise that when I last addressed you I was fully aware of the all-disturbing causes to which the populations, and consequent death-rates, of large towns are liable. I took matters as returned by the Registrar-General, knowing them to be fairly representative of the real state of things. I now proceed to make the necessary deductions for public institutions.

Here our "Hospital Physician" goes through the list, producing figures as to the number of patients, and persons, and deaths taking place in hospitals, lunatic asylums, prisons, workhouses, and other public institutions. Speaking of the latter, and summing-up, he says:—

The deaths in these are almost all of natives of the city. It should also be remembered that many public institutions belonging to city charities are selected outside the city boundary. Thus, in all I have made more than ample allowance for deaths in public institutions of persons not natives of the city of Dublin as follows:—Hospitals, 374; lunatic asylums, 57; prisons, 12; workhouses, 310; total, 753. Thus, of the 6,879 annual average number of deaths registered in the city of Dublin, 753 are not properly chargeable to the city; but, on the other hand, of 7,617 annual burials which take place of persons who resided in the city 738 escape registration. Thus, by a curious coincidence, the unregistered deaths almost exactly balance the deaths of non-citizen residents who die in public institutions.

Dr. Cameron will find, if he inquires into emigration from and immigration into Dublin, that the former is small compared with the rest of Ireland, whereas the latter is very large. Thus, 37 per cent. of the inhabitants of Dublin are immigrants, and Dublin is no exception to the rule, that large numbers of the able-bodied from the country come to Dublin in search of employment.

I think it unnecessary to go into the discussion of Dr. Cameron's views with regard to the deaths from zymotic diseases further than to state that Dublin city is about the average of large towns in this matter. Dublin has an exceptionally low death-rate from diarrhoea, owing, doubtless, to its excellent water supply. Other zymotic diseases will be found to prevail quite as much in Dublin as elsewhere. The term "preventible" must not be confined to zymotic diseases alone, but extended to many other forms of fatal disease, especially consumption.

In conclusion, in common with every person worthy of the name of sanitarian, I cannot but deplore the line of action adopted by the Public Health Committee, who, instead of recognising the evil and doing their utmost to cope with it, seem content to exert all their energies in the vain attempt to refute what are at once startling and undeniable facts.

EMPLOYERS AND WORKMEN—ENGLAND AND SCOTLAND.

A CONFERENCE of Trade Unionists was held in London on Tuesday, the object of the gathering being to consider the Merchant Shipping Bill now before Parliament, and to offer support to Mr. Plimsoll. Various resolutions to this effect were passed, and a long letter on the subject was written to Mr. Disraeli, and subsequently carried in procession to the Premier's residence.

The masons and builders' labourers of London are asking for a rise of wages. The former request an advance of 1d. per hour this month, and the latter seek an increase in June. The master builders reply almost in similar words to both bodies—that the present state of trade does not warrant an increase of wages. The builders' labourers are ready to submit their case to arbitration. Whether the masons will push their claims remains to be seen. The dearth of bricks, and their greatly increased cost is likely to retard building operations this season in London unless the market is supplied by the brick manufacturers outside the country. Japanese bricks, it is stated, are being shipped to London.

At Coventry, the building operatives have effected an amicable settlement with their employers by a resort to arbitration. From this day (the 1st of May) the carpenters and joiners will receive 7½d. per hour—all over-work beyond 56½ hours per week to be continued and paid as fixed by the rules agreed to.

At Nantlle slate quarries in Carnarvonshire, six hundred men struck work some days since in consequence of the refusal of the masters to pay wages every month or four weeks instead of five. Wages, we consider, should be paid weekly.

In Scotland, the Fife and Clackmannan miners have resolved to withdraw the present restriction on the number of working days per week, and to accept the reduction of wages proposed by the masters.

At Kirkcaldy, in one of the large spinning mills the factory workers have been put on short time, and are working five instead of six hours per day. At another factory in the district the working hours have been limited to 37 per week.

In the outlying districts of Glasgow the masons are agitating for higher wages. The workmen as Gourrock have, in imitation of the Greenock masons, gone out on strike.

At Bristol, the operative painters and labourers demand an increase of wages, which the masters refuse. The notice of the painters expires this month, and the labourers in August. The latter body have declared their intention of striking if their demands are not conceded or settled by arbitration. The painters will also probably go out on strike.

TWO CATHEDRALS — CANTERBURY AND AMIENS.*

OFTEN as I had passed them by during my annual holiday, it was only in the autumn of last year that I had an opportunity of examining the great cathedrals of Canterbury and Amiens; and I have thought a few notes on the peculiarities of each would be a useful contribution to the business of our session.

It would be possible to regard such a study from many points of view. They have their similarities and their differences. Their relation to the history of their respective countries, and their general influence on the progress of the art which we profess to cultivate. It happens that one of them presents our own political and architectural history in no doubtful guise; and that the other is no unworthy representative of the ecclesiastical history of France at the time of its greatest activity and glory. Both cathedrals are in a high state of preservation; and the restorations at Amiens have been carried out under the direction of M. Viollet le Duc.

It will be necessary that I should briefly describe them, in order to place such of you as may not have studied them on the spot or by drawings, on equal terms with the rest. The history of Canterbury may be thus given:—Lanfranc, abbot of Caen, was appointed by William the Conqueror to the see in 1070. The Saxon cathedral was in ruins, having been destroyed by fire, and he commenced to rebuild it on the plan and dimensions of the Church of St. Stephen at Caen. The roof of the central aisle was of wood, as were probably those of the side aisles. At Caen all were of stone. Mr. Fergusson points out how the enlargement of the choir under Archbishop Conrad took place in 1096, and wherein it differed from the extension which was also effected at Caen. The side aisles were then vaulted, but the nave remained as before. The central roof was destroyed in 1174, and the repairs immediately commenced by William of Sens. In the crypt (if you look at its plan) it is still possible to trace the outline eastward of the time of Conrad, and in the southern wall of the choir, from base to parapet, you will see a history of the transition then taking place. The upper windows of the three tiers display the pointed arch. The Trinity Chapel and Becket's Crown are stated to have been erected between 1179 and 1184; and Mr. Fergusson suggests that the circular building at the extreme east known as Becket's Crown, may have been a rebuilding of the ancient baptistery and tomb of the Saxon archbishops, the Trinity Chapel being a connection. I should have stated that the description of Edmer the Singer of the Saxon Cathedral leads to the supposition that it was on the German plan—double apsed, and with the entrances north and south, as we still see along the Rhine. In this connecting Trinity Chapel the wide spaces are round-arched, the narrower pointed, and the shafts, as you will see, coupled. The present enclosure of the choir was completed about 1304-5, and the rebuilding of the nave about 1410, on the foundations of the old Norman one. About the same time or earlier the chapter-house was rebuilt; and in 1495 the central (or angel) tower commenced. If you will look at the plate in Britton, you will see the north-western tower as it appeared before its rebuilding in 1832. The plate in Wilkes gives its present appearance. With a paper read by the Rev. Mackenzie Wallcott in December, 1862, before the Institute of British Architects, you will find an admirable plan of the conventual arrangement of Christ Church, Canterbury, showing the gateway to the cathedral enclosure, the ancient city wall, and a valuable attempt to identify the sites of the buildings which once formed the monastery. It also contains a plan of Canterbury, founded on the curious drawing of Eadwyn the monk, which is believed to have been made before the fire of 1174. I have placed these plans upon the table.

The general plan of the cathedral itself shows a cross (rather a double cross) with a semi-circular apsis, the total exterior length 544 ft. by 156 ft. in breadth, taking this latter dimension at the eastern transept. The circular chapel known as "Becket's Crown" may be regarded as unique, and the flight of steps between the nave and choir, as well as those which place the holy table at its present unusual elevation, the great height of its crypt at the eastern end, and the peculiar form of the window beneath the apex of its western gable, are deserving of especial notice. The central tower is 234 ft. high by 35 ft. wide. The stone organ screen which separates the nave from the choir is shown to a large scale by Britton; above it the view of the upper part of the nave from the choir is uninterrupted. The figures of the kings in the niches of this screen may be compared with those on the west front of Amiens; and both with the recent sculpture of the south-western porch and the great portals of Amiens. The doorway in the screen is used as a title-page to Britton. I would call your attention to the great perpendicular window at the west end and in the chapter-house, to the semi-classical capitals of the columns of the choir and Trinity Chapel, the open screens of the crypt, and the difference of level, to which I have already referred, at the eastern end. These features are shown on the plates before you. The northern transept was the scene of Becket's martyrdom; and the beauty of the stained glass at the time of the Commonwealth may be still realised from the band in the great window, which remains. The chair in which succeeding archbishops are enthroned stands in Becket's Crown.

Amiens Cathedral was commenced in 1220 and completed in 1257. It was partially destroyed by fire a year afterwards, and the clearstory and all the upper part of the church rebuilt. The whole appeared nearly as we find it in 1272. You can perceive at once, both by the photographs and this description, how rapid was the work compared with what occurred in the case of the English cathedral. Its architect was Robert de Luzarches, who is supposed to have completed the lower part of the nave and transepts.

The central spire dates from the sixteenth century (1529). It replaced one of wood raised in 1240. Its height is 422 ft., which can scarcely be realised, owing to the loftiness of the roof from which it springs. Its western towers have never been completed: the northern one has been raised to the height of 223 ft.; that on the south to 205 ft.

At the west end, as you see, are three deeply-recessed portals filled with statues and other sculpture. Over the central door, or Porche du Beau d'Amiens (so termed from its fine statue of Christ), the bas-relief represents "The Last Judgment"; the other statues are those of the twelve Apostles. Over the right hand porch is the death and assumption of the Virgin; and above the left the legend of St. Firmin, the patron of the city. Across all runs a line of French kings, with a noble circular window above. The western towers are of the fourteenth century, and are higher than those of York.

The entire length of the building is 469 ft., the height of nave 141 ft., the space covered greater than any other French Cathedral, and only surpassed in Gothic structures by the Cathedral of Cologne. Taking the width between the piers as 1, the height to the vault is 3½. The triforium in the choir is glazed. You can see by the photograph that the pulpit is of comparatively recent date, but in its simple white and gold is exceedingly graceful; the altar piece seems of the same period, and embraces the columns of the apse. The separation of the choir from its aisles is by a stone screen containing a series of sculpture in high relief and tinted, representing on the south side the legend of St. Firmin and St. Sauve, and on the north the acts and death of John the Baptist; they date from the fifteenth century. The choir contains 110 stalls, and is sepa-

rated from the nave by an iron screen of late design. The stalls are most delicately carved, and date from 1529. If you will look at the photographs and the general plan, I will endeavour to describe the building more minutely; and, to facilitate this and our subsequent comparison of the two cathedrals, I will read a table of dates, which give approximately the relation of the architectural features to each other in point of time.

We are now in a position to compare the two buildings we have been studying. Such a comparison may be conveniently instituted under the following general heads:—

- 1st—The differences as to position and structure which they display.
- 2nd—Their relation to the history of architecture, locally and generally.
- 3rd—Their connection with the political and religious influences of either country, more generally of the time in which they were erected.

- 4th—The way in which they fulfil at present the requirements of dissimilar rituals.

This question, of course, applies principally to the English cathedral.

As respects the sites on which they have been erected, Canterbury stands within a spacious enclosure, with grassy slopes and green trees, and quiet cloister. It is well displayed on three sides, and associated with the remnants of the ancient monastery, and with modest ecclesiastical residences. Amiens is not thus isolated, but in the midst of a city surrounded by houses which it boldly dominates, with no small picturesqueness of effect in tower and *flèche* and buttress. The first has characteristics in which, of English cathedrals, it is not alone. The long low nave and choir—compared with Amiens and the other great French cathedrals,—the distinctly marked transepts, great central tower, and now corresponding western ones. Amiens—short and lofty, with great unbroken height of roof, the western towers unfinished, yet pleasingly crowned, its noble western portals and bewildering forest of flying buttresses, its eastern end is well displayed to the open space behind.

We have seen that Canterbury was connected with Normandy by its king and its archbishop, and that there is no difficulty in tracing the influence of the imported plan and style. Amiens, like Paris, Rheims, and Chartres, was perfected in that thirteenth century which helped to carry the architectural glory of the time of Philip Augustus down to that of St. Louis; and we like to trace its history from the Pointed arches of St. Denis, Notre Dame, Paris, Rheims, and Chartres, on through to the St. Chapelle and St. Ouen, at Rouen. If you will look at the plans you will see some of these changes, the simpler west front and absence of marked transept of the Cathedral of Notre Dame, Paris. The increase of width at the choir of Rheims, and the portals marked transept and dissimilar spires of Chartres, while at St. Ouen we have a central tower of late development, and a combination of circular window and glazed gallery, which, with its structural surprises, seems to have reached the limit of that masonic skill and elaboration of parts which gave us the Friburg spire, the upper part of the tower at Antwerp, the fine tracery of Henry VIII's Chapel at Westminster, and the elaborate buttresses, lofty piers, and clearstory of Amiens—the minute panelling of the Tudors,—the perpendicular windows of Canterbury, and the great windows of the chapels of the chevet at Amiens, designed for the gratification of an increasing love of the display of painted glass; and the fretted vaults taking the place in England of the painted ceilings in France and the mosaics of Italy.

Like the town halls and belfries of Belgium, the cathedrals of France mark a period of greater freedom and of a healthier national life, of greater interest and of more liberal aid than in the monastic and feudal times, on the part of king and people. Most of the great cathedrals were either commenced simultaneously or were pressed on to completion so rapidly, that little advantage could be

* C. H. Brien, A.R.I.A.I. Read at meeting of the Association of Ireland on 27th April, 1876.

taken of mistakes or doubts. At Paris it is true there is evidence of a change of mind, and at Beauvais it became necessary to construct a pier between those first proposed, to render a lofty clearstory possible.

There are some particulars which, although I have already detailed them, may be here summarised:

In England—

1. The cathedral is often square-ended at the east, or has considerable projection in this direction, as at Westminster and Canterbury. The western end has a great window, as at Canterbury.
2. The porches are not so charged with sculpture as in France. There is a peculiar porch at Canterbury, and the west fronts of Wells and Peterborough are also exceptional.
3. The central tower; greater projection of transept; chapter-house; and proportion, length to height, are characteristic.
4. The nave is isolated from the choir, and frequently not used for service. The chapels of the apse (for the original purpose) disused.
5. There is less distinct separation of clergy and laity; the pulpit is differently placed, and the altar of lower elevation.
6. The organ stood on the choir screen most frequently, since the reformation.

France—

1. The chevet and its chapels generally show; externally at Amiens there is a lady chapel; at Paris, Rheims, &c., this holds good—at Cologne also.
2. The western front, and most frequently the transepts, contains great circular windows. It is so at Amiens—they are generally dissimilar, and of great beauty.
3. The proportions of the nave walls seem to be normally thus—a line beneath the triforium divides the space into two, of the remainder the triforium has one, the clearstory two.
4. The organ in most French cathedrals and churches is at the west end.

The last point to be considered is the relation of these and similar buildings to the requirements of the ritual for which they are now used—at Canterbury, the services of the Church of England; at Amiens, that for which it was originally designed. Take St. Peter's, Geneva, or the Cathedral of Glasgow, and you find the Calvinistic form of worship using a structure designed for a more imposing ritual, and at Heidelberg an old church actually divided between two sects by a separating wall, which allots its apse to one whose form of service is best adapted to its use. Throughout Germany, the mode of administering the sacrament in the Lutheran church favours the ancient position of the altar and the use of the baldichnio to give it dignity. The east end is, therefore, appropriately designed, while at Geneva the communion table stands in front of the pulpit and against the southern wall of the nave, and the apse, like the basilica and the chapter-house, would best subserve the purposes of the consistory.

At Canterbury you perceive, as at Westminster, classic St. Paul's, and until recently at our own Christ Church and St. Patrick's, the nave unused for service, and the organ screen blocked the view completely. Latterly, in some instances, as at St. Paul's and Westminster, the nave has become a separate church, and the difficulty is overcome by using it for special services, at which a large number of worshippers attend. At Glasgow the nave is not used for service. At Geneva, owing to its smaller dimensions, the entire building is availed of. You find thus an acknowledgment of unsuitability; looking over the plans of buildings used from the earliest times for Christian services, you will be impressed by the changes of structure which the changes in ritual necessitated, even although we confine ourselves to the western branch of the church alone, and exclude, for instance, the peculiar plan which the Greek Church favours. If you look at the plan of San Clemente at Rome, as given by Fergusson,

you can trace some of these alterations, and the German churches and the French and English supply the rest, until we gain the period when the simpler rituals and the growing importance of the sermon changed, as it were, some of the altered and enlarged structures back again to something like what seems to have been the more ancient and more simple forms.

The ancient basilica, as at Rome, is familiar to us all as not only the earliest type of a building used for Christian purposes, but as also the first example of that adaptation of a structure to other uses which we have been just considering. The basilica was a building with a semi-circular end, where sat the quæstor and his assessors, with an altar for oblations in front. This part, when transferred to the Christians, became the seats of the presbyters; and a president being necessary, one of them to this extent became chief, and the Christian altar took the place of the pagan. I speak of the first three centuries of our era. It seems almost certain that not only did no great separation of apse or choir prevail, but that even the distinction of clergy and laity was not maintained. Then came the separation, still traceable in this church of the fifth century—the bishop's throne and the presbyters' seats, the altar, the enclosed choir, with the ambours for epistle and gospel, and the atrium, with its fountain. You can follow in Germany the round building for baptism and sepulture in the western apse—the atrium reduced to the narthex; in France and elsewhere, the chevet with its chapels, its numerous altars; in Italy, the separate baptistery, as at Pisa, and the separate bell tower; in England, the chapter-house, as I have said, and as seen at Canterbury, taking the place and fulfilling some of the offices of the basilican apse, and the synods of the church transferred from the ancient place of assembly to a separate building.

These and similar changes were of course not accomplished without political convulsions, in which the cathedrals were not the only sharers. The very names of the men whose bones lie within the precincts of Canterbury, whose statues now adorn its south-western porch, or whose works are immediately associated with it, are typical and household words—St. Augustine, Canute, and the Black Prince, the murdered Becket, Crammer, and Laud, the Commonwealth, the Reformation, the shattered glory of Becket's window, and the simple ritual which is still found in the premier cathedral of England.

LECTURES ON ARCHITECTURE.*

(Continued from page 109.)

I HAVE endeavoured to point out to you some of the complexities with which architects must now grapple, and which, in my opinion, are not likely to diminish. For these, as far as they relate to scientific exigencies, we must not expect antiquity to aid us; but we may, perhaps, gain something from the study of the manner in which architects of old addressed themselves to the simpler problems submitted to them.

The monuments of Egypt will not assist us in solving the question I am placing before you, namely, the province of architecture in modern cities; not that I doubt the value of Egypt as a teacher, but because the conditions under which her builders worked differed radically from our own. The Egyptian architect employed the maximum of material, disposed without regard to space. We, if our art is to be of public utility, must study the converse, as leading to the happiness of the greatest number.

We may wander on the banks of the Nile, and marvel at the remains, on all sides, of civilisation and of art, but we are not likely to imitate either. Take, for example, the Great Pyramid of Gizeh. As a permanent monument it is perfect, but a monument of

what?—of mechanical monotony, of dreary waste of labour. There would be no difficulty in erecting another pyramid to surpass this one, and I almost wonder that some worshipper of the Past has not entered upon such a task. So much is often said of the mischief of machinery, that we may, perhaps, sometimes ask ourselves if there is not such a thing as profligate waste of manual labour; and to such a question the pyramids seem to me to supply an answer. No doubt a pyramid is a wonderful work, and illustrates the stage of civilisation at which its builders had arrived. The London and North-Western Railway is a work at least as wonderful; and if we look at it in the light of a specimen of nineteenth-century enterprise, it will not compare disadvantageously with the Pyramids. Considering the circumstances of the time, the mechanical difficulties attending the erection of the latter will appear to many of us more formidable than in the modern case; but in the case of the railway, the triumph of intellect is immeasurably more apparent; and if we compare the results of both, we find that one ministers at best to a morbid ostentation, while the other serves the wants, and ministers to the convenience of millions.

It is, of course, true that in Egypt we meet with works of architecture besides the Pyramids, which claim more respectful treatment at our hands as works of art. In strictness, perhaps, the Pyramids are not works of architecture at all, for they represent mere building. The temples, however, come under a different category. Always striking from their massive grandeur, their æsthetic merits must be admitted within the circle of architectural art. No one, I think, will contest this, who has examined on the spot the acres of majestic ruins at Thebes or Philæ, but the atmosphere and climate of Egypt affect the appearance of its architecture to so important a degree that its effect is hardly to be appreciated from drawings alone. This is perhaps more especially the case with the interiors, as, for example, the famous hypostyle Hall of Manepthah at Karnak. It is difficult to believe, from the plan and section before you, that this hall is the object of almost universal admiration; but so it is, and Mr. Fergusson has gone so far as to describe it as "the greatest of man's architectural works"; qualifying this, it is true, by the statement, that it is "such a one as it would be impossible to reproduce, except in such a climate, and in that individual style in which, and for which, it was created." To this qualification I entirely assent; and in it you will find one of the reasons why I started by saying that we must not expect aid from Egypt, at least, in any direct influence on our work of to-day.

If this be the case with respect to public monuments, still more is it so with domestic architecture. Not, however, that the latter may not have been beautiful. In all probability the æsthetic taste of the Egyptians did not stop at their temples. Their houses must, of course, have been slighter in construction, and more varied in materials, but they were, doubtless, examples of the same wealth and skill which produced their public buildings. But the same considerations of climate and other circumstances which affect the one, must prevent the other from serving as models to ourselves.

Passing from Egypt, therefore, what are the most interesting remains of ancient domestic architecture? We turn instinctively to Greece whenever any architectural inquiry presents itself, and we have no difficulty in ascertaining the principles which they applied to their public works. Starting with a Doric order, of a massiveness only second to the columns of Egypt, the Hellenic architects gradually reduced the sturdiness of its proportions and details till it was merged in the grace of the Ionic, and the even more highly decorated Corinthian. Nothing that was touched by Greek hands but was refined by the process, and Athens became the home of all that was exquisite in poetry and art. It must, therefore, be a source of unceasing

* Second lecture. By Professor E. M. Barry. Delivered at the Royal Academy, London, on 2nd of March. See ante.

regret to the architect that we know very little of the domestic architecture of the Greeks. It cannot have failed to have been pervaded by the pure taste which marks all their artistic remains, and must have afforded us some useful lessons. It is possible, however, that the private dwellings of Greek citizens may have been less important than we might at first be led to expect; for their public life (in Athens, at any rate) was so absorbing, that we may imagine the Athenians assigning a secondary importance to private affairs, and devoting their means and talents to the decoration of the public monuments, in preference to their domestic architecture.

Whatever the cause, however, we are left very much in the dark as to the latter, and can form but imperfect guesses as to its forms and decorations. This circumstance is in itself enough to justify us in refusing to accept the theory of perfect regularity, which some have sought to impose upon us, as a necessary condition of Grecian art.

When dignity is required, a certain measured regularity is essential in all good architecture, particularly in cases where the actual size is small; but the Greeks were far from insisting on exact regularity in all cases, as is seen by the example of the Erechtheum, and we may assume that their skill was great enough to adapt their architecture to the varied wants of domestic life without losing that exquisite taste which marked their designs for even the simplest objects.

Dismissing now the speculation of what might have been in Greece, we turn to Rome, as her conqueror and successor. As the metropolis of art, and queen of the world, she had opportunities without a parallel. How she used them we know from the remains of her public works, her amphitheatres, aqueducts, arches, and temples. Whatever wealth, power, and advancing civilisation could effect, became the marks of Roman dominion, and although we may miss the refined taste of the Greeks, we must admire the energy and imperial qualities of the Romans. Until lately, the remains of Roman architecture were chiefly confined, as far as Rome itself is concerned, to those of public buildings, but recent investigations have done something to increase our knowledge of its domestic architecture. Fortunately, however, for my purpose this evening, there is a richer mine of information on this subject, only partially worked, and daily yielding new and valuable treasures.

I allude, of course, to Pompeii, to which I propose this evening especially to direct your attention. Let us first deal with the general aspect of the city. Owing to the enlightened activity of the Italian Government in prosecuting the work of excavation, it is now possible to penetrate into all the more important parts of the city, and thus to form clear ideas of the daily life and habits of its former inhabitants.

Pompeii is placed on an eminence, and doubtless owes to this circumstance its comparatively perfect preservation. More fortunate than Herculaneum, it was not destroyed by lava, but by ashes. The lava becoming hard like stone, still holds the latter in its petrified grasp, whereas the loose ashes, under which Pompeii was buried, have admitted of easy removal, without injury to the buildings and works of art, which they have preserved to a great extent from the ravages of time. As regards the style of the Pompeian remains, it is right here to remark that we are not dealing with a city of first-rate importance. It was only about two miles in circumference outside the walls, and we must not, therefore, expect to find in it the grandeur and variety which, no doubt, characterised the buildings of Rome, and other important cities. Owing to the extension of Grecian rule in the south of Italy, it may, however, be presumed that Greek influence affected greatly the forms of Pompeian architecture, and we shall see, in detailed examination, that this was the case. Indeed, Pompeii might also be called a

Grecian, rather than a Roman city, and we may therefore obtain from it much of that knowledge of the domestic habits of the Greeks which, as we have already seen, cannot be obtained from their own artistic remains.

Many who now visit the ruins express surprise at the imprudence which could have planted such an assemblage of human dwellings on the slope of a burning mountain; but it is supposed that, for some centuries before the destruction of Pompeii, Vesuvius had shown no indications of activity, such as the catastrophe which subsequently overwhelmed it in the year 79 of the Christian era. Pliny's description of the latter shows us that it was a surprise of the most terrible character; and had it not been so, many of the numerous valuable articles found in the ruins, would, no doubt, have been previously removed to a place of safety. There were some warning shocks of earthquake before the final eruption, and we find evidences of the effect of them in the excavated buildings generally, some of which were evidently undergoing restoration at the time of the final destruction of the city.

The first sign of the eruption is described as a black and terrible cloud, resting on the summit of the mountain. This gradually expanded, and rose like some vast palm-tree, and at length burst into streams of fire and vapour, accompanied by lightning, and a strong sulphureous smell. Streams of molten lava then rolled down the sides of the mountain, and showers of stones and ashes fell around it.

Herculaneum, nestling close to the foot of the mountain, was soon buried in molten lava. Pompeii being four miles distant, was covered by the cinders or ashes thrown up from the crater, as above described.

This circumstance explains the paucity of the skeletons discovered in the ruins, and the good state of preservation of the houses. A general flight of the inhabitants occurred, and the cinders were sufficiently cooled in their passage through the air not to destroy utterly the buildings they enveloped.

(To be continued.)

THE PROPOSED SCIENCE AND ART MUSEUM.

The proposed Science and Art Department formulated in Lord Sandon's letter, and intended to be effected by the amalgamation of the Royal Dublin Society with the Royal Irish Academy, is still a subject of public discussion. Various suggestions and modifications have been ventilated, and it is somewhat remarkable that the most earnest and active advocates of the centralising scheme are men holding public appointments, more or less connected with the Government, or in connection with the South Kensington Department. As we said previously, we are not opposed to the scheme because it is a Government one, but because it is a centralising, absorbing, and extinguishing one, as far as native and local interests are concerned. The relegation of the agricultural department of the Royal Dublin Society to the Royal Agricultural Society would not make the scheme more acceptable in our eyes. This might be effected at any time independent of the proposed amalgamation of the Royal Dublin Society with the Royal Irish Academy. The entity of one society will not only be obliterated if the proposed scheme on its present basis is carried out, but both of our national institutions, to all intents and purposes, will be annihilated. Let the Royal Irish Academy and the Royal Dublin Society be once fused together, and whether you call the combination or outcome the "Royal Society of Ireland" or not, all that was once "racy of the soil" will wither. Under a bureau at South Kensington, an academy, society, or museum of science and art worthy of this country could not exist. Englishmen can best rule and understand the working of their own institutions, and so it is with the inhabitants of every other in-

telligent and civilised nation. The Royal Irish Academy, under the proposed scheme, are allowed little representation; but were they even granted more as an inducement for them to assent, the future of the Academy, as a representative national institution, would be more than endangered, for injury would be done.

Once more we would conjure the council and members of the Royal Irish Academy not to take steps that would destroy the autonomy of their time-honoured and historic body. Independent they are a power in this instance, despite the proverb of the bundle of sticks. The present scheme, to our knowledge, has been long contemplated, and some of its most ardent advocates on both sides of the channel are personally interested in the carrying out of the scheme, heedless of whether it will benefit Science and Art, and caring still less for the ultimate fate of our country and her native institutions.

We are ready to embrace every well-devised and honest scheme in the interest of Science and Art. There are no practical difficulties in the way, except those created by the inventors and advocates of the present scheme, which makes help for art and science in Ireland conditional to a surrender of the right to rule our own national institutions.

THE ARCHITECTURAL ASSOCIATION OF IRELAND.

AN ordinary general meeting of the above association was held on Thursday evening last, the 27th ult., the President, Mr. T. Drew, in the chair.

Mr. C. H. Brien read a paper on "Two Cathedrals—Canterbury and Amiens," which we publish on another page. He illustrated his lecture by numerous references to photographs and drawings of the different portions of the two buildings.

The chairman said that he did not consider the Cathedral at Amiens a success, taking into consideration its great mass and extravagance, it was so attenuated. Nothing could exceed the grace of the sculpture at Amiens and Chartres. He considered the Peterborough portal a sham, and the other English portals mentioned, though fine, did not approach the French ones. Did not think there was any theory as to ritual to be deduced from the elevation of altar, as the differences throughout England in this respect were very striking. The planning of cathedrals should not be sacrificed for the sake of seeing and hearing. He had a great respect for M. Viollet le Duc's restorations, but did not think, excepting him, that there was an architect in France capable of restoring. The system at present carried on by Government-paid officials called architects was hurtful to the feelings of every one who had the remotest taste for archæology. He did not think the screen in Canterbury a subject for comparison with French sculpture.

Mr. J. J. O'Callaghan, in proposing a vote of thanks, agreed with the chairman as to his remarks in regard to the growing utilitarianism, as exemplified in some of our modern buildings. A spirit more opposed to the success of architecture of this kind could not be conceived. The large nave was used for particular services, such as high mass, and all other chapels and portions of the buildings were always utilized. Speaking of Amiens, he said it was with feelings of the greatest pleasure that he stood at the west end, looking towards the gorgeous choir, surrounded by the magnificent fittings, and he had never regretted the height of the vaulting. He was not sure that he was sorry the towers had not been completed. As far as he had seen of French restorations, he rather liked them than otherwise.

Mr. J. L. Robinson seconded the vote of thanks, which was carried unanimously.

Mr. C. H. Brien, in returning thanks, said, amongst other things, that it was difficult to say whether Mr. O'Callaghan was not right

when he came to compare the towers of like buildings which have been completed.

The chairman, at the conclusion of the meeting, drew the attention of the members to the prizes offered by the Royal Institute of British Architects, and said he did not see any reason why some of them should not be won by members of the association.

BANBRIDGE CHURCH.

RE-ARRANGEMENT AND ADDITIONS PROPOSED BY MR. DREW.

THE plans (illustrated by a perspective view of the interior) which we give, will, on being studied, show a very original and bold mode of treatment of the problem set before the architect who would undertake to improve the parish church of Banbridge as it exists. The original church was of the Carpenter's Gothic type of forty years ago—a wide nave, with a transept at either side, a flat roof, no chancel, galleries, and a bald ineffective interior of the type then usual—the so-called "Gothic" details being of the usually objectionable type, such as the architects of the long-departed "Board of First-fruits" delighted to perpetrate. A few years ago an extensive addition was made from the designs of the late Mr. James Barre, under the restrictive conditions then usually imposed by the Ecclesiastical Commissioners. This addition took the form of a double-aisled transept (superseding the older transept on the north side) of unusual depth. A shallow and poor chancel was added at the same time. The result was a church which conveniently accommodated a large number of people, but utterly incongruous one part with another, and wanting in either symmetry or balance of arrangement.

In coming to deal with the question of further additions, Mr. Drew was struck with the superior architectural importance of the lately-added transept to the original nave to which it might properly be subordinate, and he adopted the novel expedient of assuming one aisle of the transept as the western end of a new nave, continuing its lateral arcades across the old nave, and extending it further by a choir or chancel, thus giving, as it were, a new axis to the church at right angles with its former one, the older portions of the nave becoming transepts in the re-arrangement. By sundry fortuitous circumstances of plan the building has fallen in remarkably well with this re-arrangement, and the result promises to be a fine church of rather unique plan, but perhaps quite as convenient and imposing as if it had been specially designed *ab initio*. From such accidental circumstances it has occasionally happened that striking and successful *coups* have been achieved in architectural effects.

THE ALEXANDRA PALACE (LONDON).

THE last season's management of this place of public resort for health, instruction, and amusement, has been most successful—the programme having been carried out to the letter. The prospective arrangement for the ensuing season 1876-7 is an extremely varied and attractive one. On to-day the annual distribution of works of art in the Palace Art Union takes place, representing an aggregate value of £3,000.

A very novel exhibition of costumes, which has been open for several days, has been well patronised by the ladies of the metropolis and the provinces. The great opening day of the present season takes place on Saturday next, the great flower show commencing on Friday and continuing on Saturday. On the 18th, there will be a presentation of prizes to 4,000 scholars and pupil-teachers of the London Board Schools. Subsidiary to the above, and on the same and intervening days, there will be sundry other shows and indoor and outdoor amusements—circus and trained animals shows, concerts, theatrical entertainments, &c. Season visitors from this side of

the Channel would do well to procure a copy of the ensuing season's programme, so that they might regulate their time and suit their tastes. The manager, Sir Edward Lee, and his assistants have given every satisfaction to the public during the past season.

The popularity of the Alexandra Palace is, without the least doubt, increasing fast, whether measured by the number of visitors or the ample list of attractions continually provided. We will on another occasion speak of special matters in detail which redound to the credit of the directorate and management, and which is proving very beneficial to the general public, who are not slow to avail themselves of decided advantages.

LAW.

FEES FOR QUANTITIES.

At the recent Quarter Sessions held in Dundalk, before O'Connor Morris, Esq., Chairman of the County Louth, an action was brought by Messrs. McConnell and Murphy, building surveyors, of Belfast and Dublin, against Mr. Thomas Clarke, contractor, Dundalk, to recover a sum of £14 18s. alleged to be due for quantities supplied to defendant.

Mr. Joseph Dickie appeared for the plaintiffs, and Messrs. Rogers and M'Mahon for defendant.

It appeared from the evidence that the plaintiffs on the 27th December last received an order from the defendant for the quantities for the restoration of the Dundalk Steam Packet Company's Stores, recently destroyed by fire, Mr. John Murray, of Dundalk, being the architect. On the eve of the quantities being furnished to him, the defendant wrote to the plaintiffs requesting a guarantee in writing of their accuracy. This the plaintiffs refused to give, not being the custom of the profession, but guaranteed the quantities, as a whole, or as practically correct, at the same time furnishing the quantities. The defendant retained them, and was declared contractor for the work, his being the lowest tender. Plaintiffs, therefore, furnished their bill, but defendant refused to pay, stating that they (the plaintiffs) had not complied with his proposition. In the course of the evidence it was attempted to be proved by the defendant that two items in the plaintiffs' whole bill of quantities were incorrect, being in excess; but the plaintiffs proposed to prove this was not the case, but that they were quite accurate as measured from the architect's plans, which, however, seemed not to represent very accurately the real features of the ruins of the existing buildings.

After hearing a considerable amount of evidence chiefly from the side of the defendant, his Worship decided that the quantities were ordered by the defendant; that the plaintiffs had complied with the order, and he would therefore give a decree for the full amount claimed.

WORK AND LABOUR.

BELFAST SPRING ASSIZES.

This was an action brought by Mr. Thomas Byrne, builder, of Belfast, against the committee for the erection of the Roman Catholic Cathedral, Armagh, to recover the sum of £1,509 1s. 2d., for extra works, interest and balances of contracts, in connection with the building.

Mr. Andrews, Q.C., Mr. Porter, Q.C., and Mr. Fitzgerald, instructed by Mr. Daniel O'Rourke, solicitor, of Belfast, appeared for the plaintiff. Mr. Falkner, Q.C.; Mr. Hamill, Q.C.; and Mr. Monroe, instructed by Mr. William Gallagher, solicitor, Armagh, represented the defendants.

It appeared from the pleadings that the Armagh Cathedral was built under four different contracts. The first contract (under the direction of the late Mr. Duff, of Newry, the architect, commenced in the year 1849) brought up the building to the level of the apex of the nave arches. At the demise of Mr. Duff, Mr. J. J. McCarthy, R.H.A., was, in 1854, appointed architect for the completion of the Cathedral. A second contract was entered into for the progress of the building a further stage. In the year 1859 a third contract for the completion of the Cathedral (except the towers and spires), including the internal fittings, for the sum of £15,304 was entered into. The fourth and last contract was for the completion of the towers and spires, and was entered into in the year 1863, for the sum of £5,000. Altogether, the plaintiff was nearly 20 years engaged at the Cathedral, and had received £22,748. He had been paid, in connection with the contracts above referred to, two separate extra accounts—one for £838, the other for £1,475. The original contracts were settled before the succeeding ones

were entered into, as also the above-mentioned extra accounts. He now claimed an additional sum for extras on the third and fourth contracts amounting to £987 7s. 6d.

The defendants pleaded that the plaintiff was not entitled to these extra works, as they had not been ordered in writing by the architect, as provided by the contract; also that the greater portion of them were barred by the Statute of Limitations; and, further, that there were omitted works, and works substituted of a less expensive character than the contract works, which were an equal set-off against those extras. The defendant had lodged £100 in court to cover all the plaintiff's claims.

The plaintiff was examined at considerable length, and maintained that he always intended charging for these extra works, although he did not bring forward his claims for them with the other extra works which had been settled for long ago.

Mr. Harvey (of the firm of M'Laughlin and Harvey, contractors, Belfast) and Mr. Lowry (of the firm of John Lowry and Sons, builders, Belfast) were examined, and corroborated the value of the extra works claimed by the plaintiff. They admitted they only paid a very cursory visit to the cathedral, and did not look out for any omitted works.

Mr. J. J. McCarthy, the architect, deposed that Mr. Byrne said he would never charge for these extras, which he now brought up, and further, that there were several omitted works and matters which he allowed to be done in a less expensive manner than was contracted for, to compensate the contractor for these extras.

Several members of the Building Committee were examined, and proved that Mr. Byrne volunteered to do those extra works without making any additional charge.

Mr. Henry McConnell, building surveyor (of the firm of McConnell and Murphy, Dublin and Belfast) deposed to having made a detailed estimate of the extra and omitted works in connection with the various contracts. The extra works amounted to £1,811 12s. 10d., the omitted works to £1,797 16s. 2d., balance £13 16s. 8d. in favour of extra works. He compared the plans and specifications with the building on the ground, went accurately over every item, and attached fair and reasonable prices to the quantities.

Mr. O'Hare, builder, of Newry, said he had examined Mr. McConnell's statement of account, and considered the prices fair and reasonable.

His Lordship, in summing up said there were four accounts, but he thought the plaintiff had no case in three of them. In fact he had already directed for the defendants in two of them. The fourth reduced itself to a claim of £55 6s. 3d. He had decided against the plaintiff for extras, because on the pleadings there was a defence that he could not recover unless he had the certificate of the architect for extras. Another reason he had done so was that the architect, Mr. McCarthy, said these extras were to go against other omissions, which was corroborated by the evidence of a very important witness, Mr. McConnell, a building surveyor, who, after a very careful survey of the whole matter, came to the conclusion there was only a balance of £13 odd in his favour. It was admitted on all hands that the works were carried out in a very superior manner, and whether from religious motives, large payments, or a combination of both—(laughter)—Mr. Byrne seemed to act at times in a very liberal manner with the Committee. He would direct the jury to find for the plaintiff the sum of £55 6s. 3d.

The jury, without leaving the box, found for the plaintiff £55 6s. 3d.

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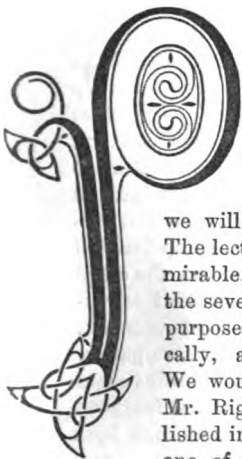
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VOL. XVIII.—No. 394.

Working Tools of Amateurs, Artists, and Workmen.



ENDANT to some papers which have been appearing in these columns for some months back, which were the subject of a series of lectures at the Society of Arts recently, we will make some observations. The lectures in question were admirable, and the construction of the several tools used for handicraft purposes was graphically, technically, and practically described. We would very much like to see Mr. Rigg's Cantor Lectures published in book form, and issued as one of the series of volumes on cognate subjects published by Messrs. Lockwood and Co. With additions, the matter would make one or more volumes; and in these days of technical education, such works on the construction and manipulation of workmen's tools would be found most useful.

Our present remarks, as will be seen, are not devoted to the construction of artist or handicraft tools, but to some reflections upon the use and abuse of improved and regular tools in the hands of sundry classes of workmen—distinguished amateurs and skilled workmen.

Before proceeding further, we give an extract from an English un-professional contemporary entitled *Working Tools of Great Men*. The article says:—"It is not tools that make the workman, but the trained skill and perseverance of the man himself. Indeed, it is proverbial that the bad workman never yet had a good tool. Some one asked Opie by what wonderful process he mixed his colours. 'I mix them with my brains, sir,' was his reply. It is the same with every workman who would excel. Ferguson made marvellous things—such as his wooden clock that accurately measured the hours—by means of a common penknife, a tool in everybody's hand. But then everybody is not a Ferguson. A pan of water and two thermometers were the tools by which Dr. Black discovered latent heat; and a prism, a lens, and a sheet of pasteboard enabled Newton to unfold the composition of light and the origin of colour. An eminent foreign *savant* once called upon Dr. Wollaston, and requested to be shown over his laboratories, in which science had been enriched by so many important discoveries. When the doctor took him into a little study, and pointing to an old tea tray on the table, containing a few watch-glasses, test-papers, a small balance, and a blow-pipe, said, 'There is all the laboratory I have!' Stothard learnt the art of combining colours by closely studying butterflies' wings. He would often say that no one knew what he owed to these tiny insects. A burnt stick and a barn door served Wilkie in lieu of pencil and canvas. Bewick first practised drawing on the cottage walls of his native village, which he covered with his sketches

in chalk; and Benjamin Webb made his first brushes out of the cat's tail. Franklin first robbed the thunder-cloud of its lightning by means of a kite made with two cross-sticks and a silk handkerchief. Watt made his first model of the condensing steam engine out of an anatomist's old syringe. Gifford worked his first problem in mathematics, when a cobbler's apprentice, upon small scraps of leather, which he beat smooth for the purpose; whilst Ritterhouse, the astronomer, first calculated eclipses on his plough handle."

It is undeniably true that it is not tools, be they ever so good, that make the skilled workman—but study, love for his craft and his tools, and perseverance. One of the best criterions of the future success of the young workman is the care he bestows upon his tools, and his desire of keeping them in proper working order. Distinguished amateurs in all ages—many of whom have afterwards become celebrated men—have, it is true, performed marvellous work with rude and imperfect tools or instruments not at all suited for the ready and efficient execution of their designed tasks. These men have conquered by laborious toil; but it is reasonable to imagine that, were they possessed of efficient tools or instruments, their success would be sooner attained, and more satisfactory. It is, at the same time, more than probable that they would have found some difficulty in handling regularly-formed tools of which they had previously very little or no knowledge. Clever amateurs and inventors have often improvised their own tools, which were afterwards improved upon and became standard instruments in the particular lines in which they were first used.

It may be taken, however, as an indisputable fact that bad tools can seldom or ever produce good workmanship, no matter how skilled the workman may be. To the trained eye the defects that are sure to arise from the use of bad tools and instruments are easily discovered, despite of gloss or expedients resorted to for deceiving the ordinary observer. A good workman who is obliged to use bad tools is at war with himself and his work, and it is impossible for him to be satisfied with its performance, though he may be successful in making it pass muster. Bad tools are a tax upon a good workman's time and energies, and directly provocative of bad temper. We have known instances of skilled workmen who turned out better work with inferior and nearly worthless tools than their fellow-workmen with the finest of tools, but still defects in the finish of their work were apparent to the trained eye.

The skill and experience of practical workmen, which are mostly coupled with high intelligence, suggest to them many expedients of overcoming difficulties when they are obliged to use bad tools. The incompetent workman, or otherwise the "botch," is a misfortune to himself, his employer, and his work. In every craft it is so, though in our remarks we have in our eye those branches more particularly in connection with the building and cognate trades.

Speaking of amateurs, we have known in our lifetime wondrous pieces of mechanism and handicraft accomplished by very simple and rudely-formed tools, and in several cases the tools or instruments were invented or formed by the amateurs themselves. Necessity in these cases was truly the mother of invention, but she was not the parent of per-

fection, nor even of efficiency. We once knew a retired captain of the army who had a hobby, or rather, as some would call it, a delusion. He was always modelling wheels and other parts for his illustration of the principle of perpetual motion. His penknife was his principal tool, and he managed to set out his cogs and cut them in a tolerably perfect manner. He kept pondering, devising, and modelling until he shuffled off this mortal coil with his illusions undissipated, yet certainly illustrating genius, talent, and perseverance worthy of success.

Our early friend, the captain, according to his own account, was badly treated by the Admiralty in London—a body that is credited with a large amount of shabbiness on the part of inventors. The captain entrusted them with some invention designed for the defences of his country, but, as usual, once they got possession of his model, the captain could never get any satisfaction from the board. He even charged them with plagiarism in modifying his invention, and bringing it out in another form to help one of their own *protégés*. The poor captain kept on remonstrating, and the Admiralty never minding, till, sick at heart, with hope deferred, he passed out from our midst.

We also once knew a shoemaker—an excellent craftsman in his line—who spent years upon the construction of a piece of mechanism designed to prove perpetual motion was possible. This son of St. Crispin invented and manufactured several small tools while sitting on his shoemaker's seat, and not otherwise employed. With files he manufactured smaller files and screw-drivers, pincers, tiny hammers, chisels, gouges, and other sundry instruments. With his shoe-making knives and files and awls he formed his models, and his lapstone (a smoothing iron upside down with the handle off) answered for his anvil. The poor shoemaker, no more than the captain above mentioned, was non-successful, and died before his mechanism was finished.

We also knew a very clever bricklayer and clerk of works—a good practical workman, and no bad architect—who also was once impressed with the notion of the *perpetuum mobile*. He tried his hand and failed, but we believe he still lives a useful member of the building and architectural profession.

The hobbies of amateurs, artists, and workmen, and their struggles after the impossible, have given birth to existent realities. As alchemy has aided chemistry; astrology astronomy; so the efforts after perpetual motion have to some extent assisted mechanical construction and engineering.

Let amateurs study, struggle, and strive by all means as best they can with rude tools and instruments if they cannot get or afford better. To practical workmen, at least, we would say, Provide yourselves with good tools, learn to use them, and by all means learn to care them, and keep them in proper working order.

THE ROYAL DUBLIN SOCIETY.

At the scientific meeting to be held this evening at Kildare-street, two communications will be read by Thomas A. Dillon, Esq. (Registry of Deeds Office). The first is "On the New Record System adopted by the Treasury." The second is "On a New System of Raising Sunken Ships." Mr. Dillon has, during the past week, been favoured with an opportunity of explaining the nature of his patent for raising sunken ships.

THE SORROWS OF A DISTRICT SURVEYOR.

COUNTY DUBLIN ROADS.

THE bad state of the Blackrock-road has given rise to much adverse newspaper discussion, and lately at the meeting of the grand jury, Mr. Justice Barry said he would not fiat the presentment unless steps were at once taken to put the road in repair. The judge even threatened the Borough Engineer with a like visitation. In self-defence, Mr. Richard Armstrong Gray has replied to his accusers, one and all, including some of our contemporaries who have been rather severe in their remarks, but not a bit more severe perhaps than the case demanded, for they believed at the time that the surveyor possessed powers that he neglected to use. If Mr. Gray's position be as he has stated, he is more an object for our pity or sympathy than for our resentment. As a matter of fair play he is entitled to be heard, and we must say he makes out a very fair case, and one entitled to every consideration if it can be sustained. We give his statement below, and we may remark that it furnishes the material of a very interesting chapter on the history of county Dublin roads and the duties and sorrows of district surveyors in connection. After a few preliminary words, Mr. Gray writes:—

An act of Parliament was passed in the sixth and seventh years of the reign of his late Majesty, William IV., known as the "Grand Jury Act," and by it the office of county surveyor was created for reasons then considered to require such an officer. With some people it was not, and never will be, a popular office. In that act the county Dublin was omitted, but in the seventh and eighth years of her present Majesty's reign it was deemed advisable to bring the County Dublin also under the provision of a Grand Jury Act, and by it the office I hold was created—viz., that of district surveyor of the County Dublin. By it I can neither raise money nor expend money of my own will for any purpose whatever. I cannot make nor prevent any presentment. I cannot make, prevent, nor break any contract. I can pay no contractor, nor prevent his being paid; and at this moment it is out of my power to do anything to the Rock-road, except to look at it, and report to others the state in which it is, and such reports have been made, and coincide literally with Mr. Justice Barry's description; and during the last five years for which it has been under the same contract, I have periodically reported its condition, and done everything required and permitted by the County Dublin Grand Jury Act to be done by the district surveyor.

It may be asked that if restrained and limited, as above described, in my actions, what have I done, and what are my duties? Both questions are easily answered. My duties, as relate to the Rock-road, were, first to prepare a specification whenever the county grand jury and the city grand jury agreed to make a contract for its repair. That specification is prepared, subject to their approval. I wrote the first in 1868, and it was cut up by the conjoint grand juries, and I had to write another less comprehensive, of which they approved and submitted for tenders; and the road was let on it for a period of three years, at a sum of £1,200 a-year (the same rate that for some previous years had been paid for its maintenance). At the expiration of that contract the two grand juries met again. I wrote another similar specification, and they let the contract for five years, at £862 a-year, with the full understanding that I considered the price quite insufficient. The contractor failed to supply the required materials, as might be expected; and while striving to procure them the road got bad, and I was obliged to procure the balance and repair the road at his expense. This was repeated the second, third, and fourth year, when he abandoned it altogether, and I had to do as best I could during the last eighteen months, and had not a penny since the 3rd of February for any purpose, nor could I get it by any means; and besides I was stopped at a most critical time, early in the year, for want of funds, owing to some hitch between the Finance Committee and the Corporation. I may add that during the five years the contractor received but £861 in cash—less than the amount of one year's contract—though he did

about half the work and supplied half the required materials, and was worried during the period with interminable breaking up of the road by the various authorised parties for water, gas, and sewer purposes.

When last week the County Grand Jury called upon the City Grand Jury to make a new contract, the latter put in no appearance sufficient to conclude an arrangement there and then, and the professional gentlemen who did appear would not agree, and that is the reason why the negotiation fell through, and nothing was done.

In answer to the question as to what my other duties are, they may be summed up as follows, viz.:—Attending at road sessions, and giving any professional advice I may be asked for, beyond which I have no voice; and that is sometimes well, and sometimes ill, received. Attending on the grand jury, and reporting to them what has been done at sessions, and my opinion thereon, and as to the state and condition of works in progress, and preparing all required plans, sections, specifications, and estimates, and reporting on any that may have been supplied, and generally on county works. Attending adjourned road sessions, when contracts are made and securities taken, over any of which actions I have no control whatever, but must take charge of any works that may then be given to me, and execute them as best I can, but for which purpose there is no organisation whatever in the County Dublin, and which of late years has become a serious evil, as what follows will explain. The next duty is to attend upon the Finance Committee and report to them conjointly with the road wardens upon all applications that may be made to them by contractors for payment, and also upon works given in charge to myself, as before mentioned; and in the event of any dispute between the contractors and the committee as to payments, it is my duty to give evidence when so required.

As to some observations respecting the condition of other roads in the County Dublin, for which the county surveyor is blamed, I may add an extract from my last yearly report to the grand jury:—

"In my district thirty-seven miles of roads under contract have been from eighteen months to three years absolutely derelict—a circumstance sufficient in itself to damn the reputation of any county, and from the effects of which I have suffered much in many ways."

In illustration of what I have stated, I may mention that in Uppercross, in the case of the presentment No. 2,760, in 1871, a sum of £100 was applied for repairing certain roads in the locality of Tallaght, Ballymount, &c. A presentment was made for £65, and a contract was entered into for £60 5s. 6d. for the yearly maintenance of these roads for five years. Within six months the contractor found his bargain would not pay, and from that time to this he never did a hand's turn on the road; after fixing a totally insufficient price he abandoned the work and left on my hands the onus and the odium ever since—nearly five years. In another case, No. 2,767, same barony, an application was made for £70, and a presentment granted for £46, and the contract taken for £34 19s. 9d. This was abandoned in precisely the same manner, and has been ever since on my hands. So has the road No. 2,783. In another case, that of a most important road, between Dublin and Blessington, No. 2,770, an application was made for £250. A presentment was made of £125, and a contract was taken for £117 per annum for five years, an unlucky proceeding for all parties, for the contractor died, his administratrix died, and his two sureties are dead, and since the March of 1873, the road has been without anyone to do anything to it, till the Board of Works took it up on the part of the Post-office. No. 2,858 is in a like predicament, except that the Board of Works cannot interfere, it not being a post road, but there are two years yet unexpired of his contract. In Castleknock, again, presentment No. 881. In 1873 the contractor found it suited him better to become a coachman on a tram car, "and, with the exception of a short interval, the road has been on my hands ever since." Last year there were presentments in the county to the amount of £2,716, for which no contractor tendered, and of this sum £2,434 10s. was given in charge to the surveyors, and threw an additional responsibility on them, which certainly was never contemplated to be imposed on the office when the act was passed, for, had it been, provision would have been made for an amount of local supervision in proportion to the work to be done; whereas, there is none, nor for the amount of additional correspondence and office-work which it entails, &c., &c.

I have brought these facts under your notice, not that I expect you can do anything to prevent bad contracts being made, or the execution of work thrown on the surveyor's hands to such an injudicious extent as has been of late, and, I have reason

to fear, will be again; but in order that you may devise some means to meet such a contingency, and that my office and position may be placed in a proper light before you, at least—for I cannot conceal from myself the fact that there is a vague impression on the minds of many people that the surveyor has some remedy at his disposal for the evils that have arisen since 1871, which he either will not or does not exercise.

Notwithstanding what the surveyor has written, there is machinery available, and which can be put in motion by the law, for remedying the evil complained of. If these legal powers are not exercised, negligent local and municipal bodies in our midst who are directly responsible, will not move. We have a number of "Jerry" road contractors as well as "Jerry" builders in this country, who either scamp their work or take it at so low a figure that it is impossible for them to honestly fulfil their contract. District surveyors often suffer through the unprincipled conduct of such men; but then, on the other hand, surveyors ought to know what constitutes a fair price for certain road contracts, and when excessively low tenders are put in, they ought at once to report to their boards that it is impossible to execute the intended work at such prices. Mr. Gray has been unusually unlucky with the contractors and others whom he has had to deal with for some time.

EMPLOYERS AND WORKMEN—ENGLAND AND SCOTLAND.

SINCE our last issue trade disputes in England and Scotland have increased, in some cases the men getting their demands acceded and in others resisted, resulting in the disastrous strike.

In Sunderland the painters have given their employers notice of an advance of 33s. per week of 53½ hours, with 8d. per hour for overtime.

At Sheffield the painters struck on the 29th ult. for 1d. per hour additional, subsequently offering to resume work at ½d. advance.

At Wigan the bricklayers who were on strike have been offered by their employers an advance of 8s. per week in their wages, making 36s. in the winter and 39s. in the summer—9d. per hour, an advance of 1s. 1½d. per week of 49½ hours.

At Doncaster the stonemasons turned out for an advance of 3s. per week and 4½ hours less work. The masters offered them 2s. 6d. and an abatement of two hours in their working hours—terms which the joiners accepted, but which the masons resist. The house painters also are partially on strike. They ask an advance of 1d. per hour—7d. instead of 6d.—and 1s. per day extra when employed in the country. Their employers, however, are firm in refusing any concession. The house painters have no society to support them.

At Middlesbrough the operative painters have asked their employers for an advance of 1d. per hour in their wages. The masters refuse to grant the advance, and while paying the painters 7d. per hour have given notice that they will reduce the paper-hangers from 7½d. to 7d. per hour. The men have struck work.

At Bradford the committee of the Master Builders' Association have met deputations from the journeymen masons and bricklayers, and it was determined that the men in these trades should commence work at an advance of 2s. per week, making 35s. a week for 49½ hours' working time. Some years ago the pay of masons was about 22s. a week for 57½ hours' working time, so that the advance since has been considerable. The committee also received a deputation from the Labourers' Society. These men, who are now getting 22s. a week, asked for an advance of 4s. a week. The employers, however, could not see that the request was reasonable, and

made no offer, as they had done in the case of the masons, which brought about the compromise. At the interview on Saturday night the labourers were offered an advance of 1s. a week, but they declined to accept the terms, and retired without having the question settled.

At Bolton the operative painters, who have been out on strike during the last month for an advance of 1d. per hour, have resumed work, the Master Builders' Association conceding the advance asked for. The men are now paid 8d. per hour.

At Manchester the strike of the operative painters has ended, after a duration of four weeks. Six months ago they demanded of their employers an advance of 1d. per hour in wages and an increased country allowance. The employers, on the other hand, sent a notice for a reduction of ¼d. The dispute was, according to rule, submitted to arbitration, the Bishop of Manchester being chosen as umpire. His lordship awarded an advance of ¼d. an hour, but the award was repudiated by the workmen, and they struck work. The employers made strenuous exertions to fill their shops with other men, and much bitterness was generated on both sides. After interviews between representatives of the two parties, the strike, as already stated, has been settled, the men agreeing to accept the bishop's award.

At Carlisle the operative joiners have got ¼d. per hour advance. They asked an increase from 6½d. to 7½d. per hour. Their pay is now 7½d. per hour.

At Nottingham the painters struck for 1d. per hour advance, their late wages being 7d. per hour.

At Barnsley the masons, bricklayers, painters, paper-hangers, labourers, and quarrymen are more or less on strike for an increase of wages.

At Eccles some hundreds of painters in the surrounding district struck work on the 25th ult. The men first demanded 1d. per hour advance, but subsequently reduced their demands to ¼d. The employers have offered ¼d., which the men refuse. The employers are willing to base further decisions on the action of the masters in Manchester.

At Swansea, the masons are demanding 6d. per day increased wages. The employers say it is utterly impossible, with the present depressed state of trade, to grant the unreasonable demand. Wages in the district are now 38s. per week for 5½ days' work.

At Devonport the skilled labourers at the dockyards have been granted their request by the Admiralty, but in a manner which will affect their future pensions. The skilled men, who were employed at 3s. 3d. per day for a period of three years, will in future have their pensions scaled accordingly. Previously there was no distinction made between those receiving the above sum and others in receipt of 2s. 9d., all being pensioned on the lower scale.

At Warrington the strike of the various building operatives has been averted by the following concessions:—The carpenters and joiners receive ¼d. per hour increase, making their future pay 8d. per hour; the bricklayers' wages are increased from 8d. to 9d., the week's labour consisting of 54½ hours; the labourers' wages are increased to 6d. per hour. The stone-masons, at the date of the above agreement, had not come to terms with their employers, but doubtless have by this time got an increase in their wages, and are at work.

At Edinburgh the operative masons have been granted by their employers an increase to 9d. per hour. Crowded meetings of joiners have been held, demanding a rise from 8d. to 8½d., which they are likely to receive, although the masters have resisted in the first instance.

At Greenock the masons' strike has, within the last few days, assumed a new phase, "the employers having written to Germany to ascertain at what rate masons would be willing to come to this town and work under a three years' engagement. On Monday a reply was received that 1,000 men could be sent at once, and were willing to engage at

7d. per hour. We (*Glasgow Citizen*) understand that unless the men on strike return to work this week, at least 500 German masons will be engaged. There are many German masons engaged in London and other English towns." In respect to the statement of the *Glasgow Citizen* that there are many German masons engaged in London and English towns, we altogether doubt it; and we would need proof before crediting the statement. There may be a few scattered here and there, but they must be very few. Without taking any direct part, or showing bias as against workmen or employers, still we must say we do not desire to see the importation of German building labour into these countries.

In different districts in Lanarkshire the master builders are resolving on a reduction of ¼d. per hour in the wages paid to the masons. They consider that the present rate is far too high, which the masons do not.

At Stirling the master builders have consented to a rise in their operatives' wages from 6½d. to 7d. per hour, and 9½d. per hour overtime.

Throughout England and Scotland there are several large and small strikes in the coal-mining trade, in Yorkshire and Derby 30,000 miners being some weeks out on strike. It is a dull time with many of the mill and factory hands in the north of Scotland, and sundry workpeople are going south in search of employment. In Lancashire the cotton trade is disturbed, meetings of strippers, grinders, and card-loom hands being held at Blackburn, at which resolutions were passed complaining of the refusal of the masters to answer a demand for increased wages. A deputation was appointed to wait on the Masters' Association to enforce the claims of the operatives, and to intimate that unless an advance was made a strike would ensue. A similar movement is in force amongst the operative spinners, and precisely similar steps are being taken by them. There seems to be a general movement amongst the factory workers in favour of a higher scale of wages in the cotton trade.

A glance at our reports will show that not only are the building and cognate trades disturbed over the sister kingdoms, but that in all other branches of industry there is unrest.

ANENT OUR GENERAL POST-OFFICE.

WE clip from a morning contemporary of some days back the following paragraph:—

Mr. A. M. Sullivan called attention on the 17th March last to the disgraceful state of the pavement under the portico of the General Post-office in the city of Dublin. The pavement had been laid down in 1815, and was in a worn-out, broken, and most dangerous state, abounding in holes. What, he said, did the committee think the Government did recently? They set two stone-cutters to patch, plaster, and darn the holes in the pavement, at a cost of about £2 10s. The result of Mr. Sullivan's action was that Mr. W. H. Smith promised that immediate steps should be taken to remedy the evils complained of. Well, the steps may have been "taking" ever since, but they have not yet been "taken." The wretched old pavement is still in the same discreditable condition. If it was the Corporation did this, probably it would be brought under the attention of the Local Government Committee. As it is, nobody seems to mind it. May we suggest to Mr. Sullivan a return to move for in the House which would be an instruction? It is a tabulated statement of the number and dates of every fire which has occurred in the General Post-office, Dublin, during the last three years. Our proximity to that edifice gives us a personal interest in the matter.

We hope by this time the Board of Works are "after taking" the necessary steps to replace the worn-out flagging under and in the vicinity of both portico and building. Some years since the architectural effects of Francis Johnston's design were destroyed by the closing in of the arcades under the portico, the exigencies of the postal service demanding, it was stated, more space. The alteration was not certainly an architectural one.

We would supplement the queries of our contemporary with another. Who looks

after the pigeons who have built and bred and have found a permanent location under the portico of the Post-office and elsewhere over the building for the last half century? To some extent they are a nuisance. We suppose their numbers are kept down yearly, for they seem never to increase much. What becomes of most of the new birds or the old birds? Is there a yearly *battue* by catapults on the part of the clerks, sorters, or telegraph boys?—or does our worthy Viceroy receive periodical presents of materials for pigeon pie? An occasional wash-down of the Portland stone columns, capitals, and entablature of the portico, as well as other enrichments in connection with the Irish granite front, would be a great improvement. There is doubtless a large quantity of guano and defunct as well as living birds' nests that might be removed, with profit to the public and credit to the postal authorities in Sackville-street.

Turning from a question about pigeons, we would ask who is responsible for the removal of eight or ten gas-lamps which formerly shed their light around our Post-office. Since the removal of the railings and gas standards at the Henry-street side, that portion of the building is without *even one lamp*. The façade of Francis Johnston's building is just now, and has been for months past, illuminated with six gas-lamps, from each of which is emitted the light of a farthing candle!

PATENT SAFETY RAILWAY POINTS.

By this plan (the joint invention of Messrs. Edward M. Browne and J. M. Burke, C.E.'s, of this city) it is intended to do away with "facing points" on railways, the cause of such a great number of accidents, and which the officers of the Board of Trade are in consequence so much against. In Messrs. Browne and Burke's invention the safety of the train is not left in the hands of a mere pointsman, nor are there any points or wheel-chains which the train can strike. It, in fact, runs over nothing moveable, and cannot leave the rails under any circumstances. The way proposed to supersede the ordinary switches or points is as follows:—On one side the main line rail is laid as a continuous rail; the branch line rail on the same side is terminated on the inside of the main line, and a piece of packing is so placed that a running surface for the wheels is obtained while the train is passing from one line to another. On the other side of the line the branch line rail is laid as a continuous rail, the main line terminating on the inside; a piece of packing is placed in a similar manner as on the opposite side; over this packing a bar or moveable check-rail is placed, pivoted at one end, the other end being free to move in or out from the rails. When this bar is at its normal position, the train runs free for the main line; when moved into its proper position for the branch line, where it is held firmly in its place by a crank which takes all strains off the connecting rods, it forms a check-rail which turns the train on to the branch line. When used where facing-points are at present required, it is proposed to lock this bar against the pointsman until the train has passed, in the following manner:—To the end of the bar or check-rail a piece of angle iron, 18 feet long, is connected, so that when the branch line is made, this bar of angle iron will abut against the branch line rail, and will be hugged to the rail by the flanges of the wheels of the passing train. When the main line is being made, this bar of angle iron will move with the bar or check-rail out from the branch line rail, leaving a clear space for the wheels of a train to pass when running from the branch to the main line.

A paper on this subject has just been read at the Institution of Civil Engineers of Ireland, and the matter is receiving much attention from the profession. We understand also that this invention will be soon tried on our principal railways, and that those safety railway points are being at present made for the purpose of severe test and trial in several places.

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

In his life of William Bedell, Lord Bishop of Kilmore, the late H. J. Monck Mason, LL.D., M.R.I.A. (1843), and for several years librarian of the King's Inns, Dublin, furnishes some interesting items from the Diary of Bedell, when provost of Trinity College, and also from the Registers of the University. In 1629 the state of our now flourishing Alma Mater was the reverse of promising: the funds were low, penury was apparent, but, notwithstanding, the administrators previous to and during Bedell's appointment were not above trying their hands at jobbery and embezzlement. It appears the new provost did his best to reform matters during his two years of office, from August, 1627, to September, 1629, when he was promoted to the bishopric of Kilmore.

Before giving a few extracts from Bedell's Diary, we will give an extract from a letter of the provost at the time to Primate Usher, dated March 5, 1628. It is highly characteristic of the times and the state of feeling exhibited by the students of Trinity College: "We have not yet delivered your grace's return of the reference made to you at the council table touching the enclosure of the college gate, as having but lately received it. In the mean while the scholars, upon St. Matthew's Day, at night, between supper and prayer time, have pulled it all down, every stick, and brought it away into the college to several chambers; yet, upon warning given that night at prayers, that every man should bring into the quadrangle what he had taken away, there was a great pile reared up at night, which we sent Mr. Arthur word he might fetch away if he would, and he did accordingly. This insolency, though it much grieved me, I could not prevent; I did publicly upon reference pray them to be quiet, signifying our hope that we had of a friendly composition; but when they heard that Mr. Arthur was off, they would no longer forbear."

The above passage may be illustrated by stating that it was the intention of the Dublin Corporation of that day to have built some houses close to the college gate. A letter to the mayor, sheriffs, &c., of the city, Mr. Mason states, is extant in the Register, in which the board request, for many reasons, that their intention should not be completed. It appears that the Mr. Arthur alluded to was their lessee, and had proceeded so far as to enclose the ground for the purpose of building, and stopping up the ordinary way of passage. Hence the "right of way" was maintained by the students. The subject under notice was also the matter of a petition from the college, reference being made to Usher (the Archbishop of Dublin), Lord Dockra, and Lord Dillon respecting it, and the extract given from Bedell's letter explains the rest.

From Bedell's Diary the following extracts will give an insight into the state of turbulence in the college, and the measures rendered necessary for restoring order and discipline:—

"1628.—August 28.—Sir Hoile, for striking one Frize, who thereupon complained to the maior [mayor], and was remitted to as was adjudged to be punished a moneth's commons, the money to be given to the person whom he strake, and to confesse his fault in the hall. This was signified to the maior by the provost and Mr. Thomas." Two days afterwards Sir Hoile acknowledged his fault in the hall.

"Sept. 13.—Dean and Wilson mulcted a moneth's commons for their insolent behaviour—salting and striking the butler [assaulting, perhaps], which was presently changed into sitting at the lower end of the scholars' table for a moneth, and subjecting them to the rod."

We find several more students admonished and punished during the following months for playing cards, assaulting persons, insubordination, and sundry other misdemeanors. Some were mulcted in the loss of three

months' commons, and to make confession of their faults on their bare knees in the hall. In the month of May following we find a case of the *lex talionis*, a blow for a blow being given as a satisfaction for the offence:—

"May 1st.—T. Barton, for striking Dodwell, punished a moneth's commons; and this being the second time of his striking, he was to have lost three moneths' commons, but upon his knees in the hall he subjected himself to taking a like blow and asking pardon."

"Jan. 9.—It was agreed this day to declare publicly our intention to proceed against such as neglected catechism and lectures, used tavern-haunting—especially going out without gowns—by the statute against those that make the college ill-spoken of for neglect of Government, cap. 9. First to admonish; secondly, a moneth's commons; thirdly, to some heavier censure. This was published in the chappell."

"August 10.—Complaint to my Lord-Deputy of Bodkins, a broken merchant, labouring to seduce the scholars of the college and convey them into Spaine, Sir Walworth and Comb Griffith brought to confront them. He was committed to the marshalsea, and to send sureties for his good behavior."

"August 28.—Sir Springham to render account of the omitting his declaration, sayd to keep a hawke, not to come to prayers."

"August (or September).—Rawley for drunkenness to be denied further maintenance from the college; especially having added to his fault the knocking of Stranck his head against the seat in the chappell."

The above and following entries show instances of severe punishment, richly merited. These occurrences were in the last year of the provostship of Bedell:—

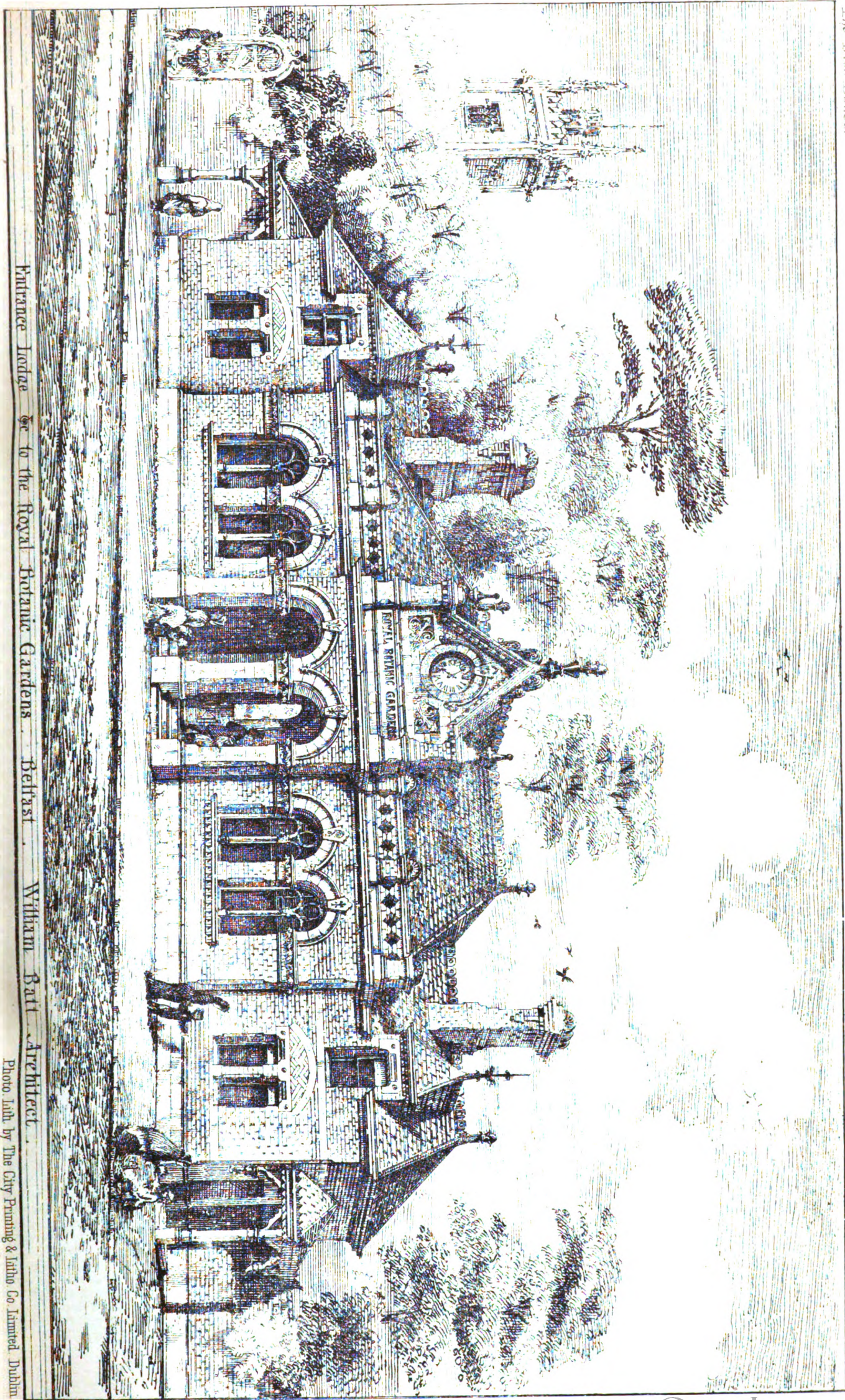
"Sept. 5.—Booth, for taking up a pig of Sir Samuel Smith's, and that openly in the day tyme before many, and causing it to be dressed in towne, inviting Mr. Rollo and Sir Conway (who knew not of it), condemned to be whipped openly in the hall, and pay for the pig."

The Trinity boys in the seventeenth century—aye, and in the eighteenth and earlier portions of the nineteenth century—were troublesome youths to their provosts, lord mayors, and others. They would not stop at sticking a pig and inviting the owner to partake of a portion of the *boneen*. In the seventeenth or eighteenth centuries Paddy's pig roamed through the lanes and streets of the city free, and he was a good scavenger betimes, for the Corporation were not particular in cleaning the streets, offal of all kinds being flung upon the streets to lie and rot, and poison the public. During Provost Barret's time in the present century there were a number of rare College boys, as well as in the eighteenth century, and some of them were as much interested in tarring and blowing-up a statue of King William in College-green as they were in dressing it on the 12th of July. The celebrated Watty Cox spoiled their anniversary once, and some one else, not yet identified, blew his Majesty into the air in our schoolboy days, giving an opportunity to the ballad-singers of Dublin of reviving the original song of "The Night Before Larry was Stretched."

There has in all ages been a great amount of gossip and superstition ventilated about people with red hair. In Ireland red hair, as far as we remember, has never been coveted, though a few years ago, for a season or two, it became fashionable, at least with London beauties. The Scotch people are more prone to red hair than either the English or Irish, and we suppose this is the reason why "Sandy" has been applied as a nickname to the Scots. The prevalence of red hair among the inhabitants of the Scottish Islands, Norway, Denmark, and other northern islands is somewhat remarkable. Aristotle observes that those who follow the occupation of fishing are generally red-haired, but then sailors, as a rule, who spend so much of their years from youth to old age at sea, are not generally red haired. The

inhabitants of the northern countries have lived for ages in the pursuit of fishing, and perhaps a hereditary calling has something to do with the hereditary colour. There is an old popular song in Ireland called "The Red Haired Man's Wife." The superstition or fancy has been carried so far in this country that it was thought unlucky for a person going out in the morning for the first time to meet with a red-haired person. This fancy was something like the magpie one, which says that to see one mag in the morning is bad luck, two good luck, three a wedding, and four a burial. If you met a red-haired person the first start in the morning in Ireland it was an ill omen, and old gossip advised to go back to your home, and, if possible, not venture on your journey for the rest of the day. But how would it be, may we ask the old gossip, if a red-haired man met one of his own colour, or a red-haired woman, or *vice versa* on the woman side? If both starters on their early journey were of opposite sexes, would there be an instant inflammation in the heads, tongues, or in their breasts on their meeting? In this instance we suppose there would be a reciprocal affection or attraction, instead of repulsion, and the red-haired folk, after exchanging a proper morning greeting, would go on their way rejoicing that when red meets red the ill omen collapses. Now although we would not prefer ourselves to have a crop of red hair on our pates instead of black or dark auburn, still we look upon the dislike expressed by some folk against red-haired persons as arrant nonsense. Until we are furnished with ample and convincing statistics to the contrary we will continue to believe that red-haired people, as a rule, are not more cross-tempered, selfish, or deceitful than other folk. A miser, or a termagant, or a skinflint with red hair is remarked more on account of their hair than their other characteristics. If the majority of the criminals in our gaols or who have suffered for their crimes in the present century can be proven to have red hair, we will at once acknowledge that red-haired people are a bad lot, and that we ought to weed the race out by some process of grafting, transplanting, or vaccination. We fear, however, we will have to wait a long time for reliable statistics, and thousands of our countrymen are certain to die with their illusions undispelled.

In these sanitary times when open spaces are advocated, and the planting of trees in our public streets is encouraged for their health-preserving properties, it would be well if the public would give a little more study to the healing or disinfecting qualities of flowers and plants. What is reported to have happened once might be possible again. We read in a magazine of the last century that during the plague at Marseilles four thieves entered and plundered a number of houses where persons were dead and dying, and during the whole time of their depredation they never caught the infection themselves. When the thieves were seized and condemned for their crimes, they obtained their pardon by giving the following receipt, which was the only preservative they used—Rue, sage, wormwood, lavender, and rosemary, of each a handful, infused into a gallon of white wine vinegar; put into a stone vessel closely pasted and covered over, and then set over warm wood ashes for eight days; then strained through fine flannel and bottled, and to each quart a quarter of an ounce must be added of camphor. With this preparation the mouth was washed repeatedly during the day, the loins and temples rubbed, and some of it carried in a small bottle in the pocket with which it is necessary to wet a sponge and snuff it up occasionally, particularly when in the air or near any infected place. Will some of our medical officers of health try the receipt in cases of typhoid and scarlet fever, and tell the public the results? The prescription is simple and not expensive. Perhaps the rogues of Marseilles have left posterity a



Entrance Lodge to the Royal Botanic Gardens. Belfast. William Barr Architect.

Photo. lith. by The City Printing & Litho Co. Limited. Dublin

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valuable receipt that is worth preserving for all time. If by our resuscitation of the prescription it gets into the hands of the quack doctors in our city, the legitimate medical faculty may be "bowled out" of a very extensive and lucrative practice. Wake ye up too, kitchen gardeners in the country and the metropolis, and grow more rue, sage, mint, wormwood, lavender, and rosemary, for your own sake and ours, for whether the plague visits Dublin or not we will be all the better of a fragrant smell.

H.

NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.*

THOUGH the Dublin Stage began to decline for some time after the death of Thomas Elrington, theatrical speculation and rivalry were rife, and new theatres and exhibitions cropped up sufficient to administer to the wants of the Dublin of our day. Great disappointments and losses, chagrin to managers and actors were the consequences, and eventually the play-going public grew tired betimes, changed sides, opposed and sympathised with their entertainers. It appears that Smock-alley Theatre about this time passed under the management of Francis Elrington, the brother of the late manager, assisted by Mr. Griffith and Mr. Layfield. Thomas Elrington, like his brother, was a native of London, where he was born in 1692. The success of his brother in Dublin induced him to throw up his small appointment under the Duke of Montague and try his fortune on the Dublin stage. He is stated to have had a good voice and figure, but as an actor he in nowise approached that of his brother. The Duke of Dorset—always a constant friend to the Elrington family—procured Francis an appointment in the revenue, which he held until his death. We have already told of Griffith, and all that need be said now of Layfield—who was for some years a member of the Dublin theatres—is that he was an actor of some merit, and an Englishman by birth, his first appearance being made at Drury-lane.

Under the combined management of the above and others, Smock-alley did not prosper, whether through want of unity or other causes it is impossible to rightly determine now. Materials are needed to throw light upon the management of the Dublin theatre at this period. Under the new management, at its first commencement, matters were to a degree promising. Smock-alley was repaired, new actors and actresses were engaged, and the theatre opened on the 5th of October, 1732, with the "Island Princess," an opera by Motteaux, founded on a piece of a similar name by Fletcher. We read that on the occasion several new scenes were painted, and a great deal of machinery was introduced. An extract from *Faulkner's Dublin Journal* for 1732, quoted by Hitchcock throws, however, a curious light on the state of the wardrobe of Smock-alley at this time, which shows that the finances of the establishment were at a rather low ebb. The paragraph was as follows:—"The Right Hon. Lord Mountcashel has made a present to some of our managers of five suits of the finest laced and embroidered cloaths that ever were seen on any stage." And again, in the December of the same year, *Faulkner's Journal* reports—"The five cloaths lately given by the Right Hon. Lord Viscount Mountcashel were for the use of the whole company, and it is hoped our nobility and gentry will follow that noble and generous example." We believe in subsequent years the example was to some extent imitated, for in the eighteenth century, both in England and Ireland, in the city and provinces, the managers of theatres were not above accepting presents to strengthen their wardrobes.

Though the management of the Dublin theatre was not successful about this period, the public appear to have been very fond of theatrical representations, and private

theatricals were much in vogue. In January, 1732-3, we read of the play of the "Distressed Mother" being acted in the Council Chamber of Dublin Castle, Lord Mountjoy, Lord Kingsland, and other persons of distinction of both sexes supporting the characters.

About 1732-3, Rainsford-street Theatre was built. The position was an ill-chosen one, though it might not appear so at that date, as there was a good deal of wealth in the vicinity of the Liberty in these early years. One reason that led to its erection—it was out of the Lord Mayor's jurisdiction. The Earl of Meath granted the licence to one Thomas Walker for forty pounds per annum, the sum charged being intended to be distributed among the poor of the Liberty. What may have been the exact size or style of the building we have no particulars, save it is reported to have been a very neat, compact building, capable of holding a hundred pounds at common price, but this amount was never raised except at benefits. The first play performed at Rainsford-street Theatre was Congreve's comedy of "Love for Love." Some of the actors and actresses were well known, others of them were young, and a few of the latter subsequently distinguished themselves under other names. The company consisted of the following on its opening:—Messrs. Moore, Husband, Ravenscroft, Bourne, Sparks, Daniel, Roch; the ladies being Mrs. Ravenscroft, Smith, Talent, Miss Mackay, and Miss Barnes. The Rainsford-street company were under the direction of Mr. Husband, an old actor of reputation, who as far back as 1696 was recommended by Dogget (at that time in Dublin) to Mr. Ashbury. Although a young actor in Dogget's time, and of merit, at the date of the opening of Rainsford-street Theatre, Mr. Husband was sixty years of age, rather too late in years to succeed in his new enterprise.

On February 19th, 1733, a new tragedy, entitled "The Fate of Ambition; or the Treacherous Favourite," was produced at this theatre to a crowded audience. After a few nights and a benefit for the author, whose name does not appear, the piece was shelved for good.

We now arrive at the period of the building of the new theatre commonly called Augier-street, though the plot of ground was situate in Longford-street. Augier-street was at this time considered the fashionable end of the town, though fashion has been so erratic we find her afterwards proceeding north by Rutland-square or Dorset-street, and again south by Merriem-square, Harcourt-street, Ranelagh, Donnybrook, Rathmines, &c. The design that Thomas Elrington had in his mind of a new theatre when he was struck with his mortal illness was now about being carried out. Connected with the laying of the foundation stone, or rather stones, for there were four ceremonial stones laid, there are some incidents worthy of particular notice.

On Tuesday, May the 8th, 1773, the first stone of the new theatre, amid great pomp and ceremony, was laid by the Right Hon. Richard Tighe, the second stone was laid by the Hon. General Napier, the third by Wm. Tighe, Esq., and the fourth by the Hon. Sir Edward Lovet Pearce, Knt., Surveyor-General of His Majesty's Works in Ireland, and architect of the Irish Parliament House. It may be noted here that Sir Edward Lovet Pearce's claims to being architect of our Parliament House has been contested by several, some accounts stating that the plans were supplied by Richard Castles, or Cassels, the architect of Leinster House, the Lying-in-Hospital, &c., but official documents go to prove that Pearce was the architect. It is not improbable that Sir Edward Lovet Pearce may have also been the architect of the new theatre in Augier-street. Be that as it may, the architect we have named died in the December following at his residence in Stillorgan, and was interred in Donnybrook Church.

Under each stone laid of the new theatre

at Augier-street were placed several medals struck for the occasion by Messrs. Elrington and Layfield, the managers of the old Theatre Royal in Smock-alley. We quote from Hitchcock—"A prodigious concourse of people was assembled, and each stone was laid with a flourish of trumpets, drums, bands of music, and loud acclamations of the multitude. Plenty of the choicest wines were provided for the gentry by the managers; several barrels of ale were given to the populace; each of the gentlemen who laid the foundation stones made presents to the workmen, after which an elegant dinner was provided by the managers for the nobility and gentry."

The above is the only instance that occurs to our memory of a theatre or public building having four foundation ceremonial stones laid. The exhibition, as a whole, we think is somewhat unique in the history of "turning the first sod." The Dublin boys must have been delighted on the occasion, and many of them must have found their native level upon the "ould sod," failing to keep their perpendicular amid such music and "lashin's and lavin's."

While Augier-street Theatre was building, representations continued at Smock-alley and at other houses. There was no dearth of entertainment in Dublin at this time. Smock-alley and Rainsford-street Theatres, and Madame Violante's in George's-lane, were open, besides some medley provided by one Tony Ashton in Patrick's-close, who appears to have obtained some sort of celebrity in his day. In this season of 1733 the new Music Hall in Crow-street was built by Mr. Johnson, on the spot where the future old Crow-street Theatre stood. Many *ridottos* were performed in this hall under the direction of Signor Arregoni, a once-noted Italian composer and violin player. In June, 1733, Delane and Ryan arrived in Dublin from London for the after season. The former had been for some time absent from Dublin, where he made his first appearance, and had mounted the ladder rapidly, establishing a good reputation. He was welcomed by his old friends, by whom he was well received. Ryan up to this time had not appeared on the Irish Stage, though he had been playing in the sister kingdom, at least from 1713. Richard Ryan was the son of an Irish tailor, but was born in London. As a mere youth he played under Thomas Betterton. Dr. Doran writes of him—"From first to last he continued to play young parts, and his Colonel Standard in 1757 was as full of the spirit that defies age as his Marcus in 1713 was replete with the spirit which knows nothing of age. Easy in action, strong but harsh of voice, careless in costume and carriage, but always earnest in his acting, he obtained and kept a place at the head of actors of the second rank, which exposed him to no ill-feeling on the part of the few players who were his superiors."

Ryan's character of Richard was that adopted as a model by Garrick in general features. Quin was very fond of Ryan, and treated him as a brother. Both actors had the misfortune to imbrue their hands in blood, but only in self-defence. To use Dr. Doran's words—"Quin's sword despatched aggressive Bowen and angry Williams to Hades, and Ryan, put on his defence, slew one of the vapouring ruffians of the day, to the quiet and satisfaction of all decent persons." This was in 1718, but on a later occasion Ryan had nearly fared worse. A pistol shot was fired at him in a London street by one of three or four footpads. The word of forgiveness was on his lips when he was taken up with his jaw shattered. After long suffering he recovered, and again acted with success, though in pain.

Another extract from Dr. Doran's volume will sum up the theatrical character of our actor—"Ryan was the esteemed Ryan of numerous patrons, and when a benefit was awarded him while he yet lay groaning on his couch, Royalty was there to honour it, and an audience in large numbers, the receipts from whom were increased by the

* See ante.

golden guerdons forwarded to the sufferer from absent sympathisers. Perfect recovery he never reached, but he still could pourtray the fury of Orestes, the feeling of Edgar, the sensibility of Lord Townley, the grief and anger of Macduff, the villainy of Iago, the subtilty of Mosca, the tipsyness of Cassio, the spirit of Young Harry, the airiness of Captain Plume, and the characteristics of many other parts with great effect, in spite of increasing age, some infirmities, and a few defects and oddities."

Ryan received his early education at St. Paul's School in London, and when he died in 1760 the last of the players who were contemporary with Betterton had passed away. We have anticipated his career and fame by several years, though in 1733, when he appeared for the first time in Dublin, he had established his reputation to some extent in London. His first appearance here was in "Macbeth," being Macduff to Delane's Macbeth. There was a crowded house that night in Smock-alley, and both actors gave satisfaction. The second appearance of the two actors was in the "Provoked Husband," Delane taking the part of Lord Townley and Ryan that of Manly. Others of Shakespeare's plays followed, with respective benefits for Delane and Ryan, after which the Smock-alley company left for Cork, Delane and Ryan accompanying them. Here we shall leave them for the present.

THE ROYAL IRISH ACADEMY.

A GENERAL meeting of the Academy was held at 19 Dawson-street, on Monday evening.

The PRESIDENT in the chair.

A paper was read by Edward T. Hardman, Esq., entitled "Chemico-Geological Researches; report, No. 1, a contribution to the History of Dolomites."

The Secretary, for Mr. W. F. Wakeman, read a paper entitled "Some remarks on the Antiquities of Knockniny, County Fermanagh." Mr. Wakeman says that here they found within a limited space three distinct modes of Pagan sepulture, as exemplified in cairns, megalithic monuments, and caves. The principal "giant's grave" in the district measures 49 ft. in length by 6 ft. in average breadth, and is composed of sandstone slabs. There is no trace of any covering. The interior is divided by partitions into three chambers, all of which were found to contain portions of human skeletons, largely mixed with bones of oxen, sheep, and other animals. The bones do not appear to have been subjected to the action of fire, although some small pieces of charcoal were found with them. They lay in utter disorder, and at various depths. Mr. Wakeman, in conclusion, asks—Are we to look on these Knockniny bones as the remains of a funeral feast?

Dr. E. Percival Wright read a paper describing a very beautiful new sponge, which was found living on seaweeds. It was of microscopic dimensions, presenting a spherical head, supported on a stalk which consisted of a number of bead-like joints. The whole structure was keratose, like that of the common toilet sponge; but the lace-like envelope of tissue formed a very regular series of meshes. The name of "Kullispongia Archeri" was proposed for the new form. Mr. Wright also read a note of a collection of Foraminifera found living on a piece of seaweed from Japan, which was not over three square inches. No less than sixteen species were found, many of them in large quantity. One new form had been described by his friend, H. B. Brady, F.R.S., as "Calcarina Hispidula." Very many of the Foraminifera are oceanic, and any contribution to our knowledge of those living on algae could not be without interest.

The papers were referred to council for publication.

The following were elected members of the Academy:—William H. Byrne, Esq.; William Gillespie, Esq.; and Dr. Kelly.

BELFAST ARCHITECTURAL ASSOCIATION.

THE closing meeting of the session, and exhibition of drawings, works of art, &c., was held in the Museum, College-square, on the 2nd instant. The Mayor occupied the chair. Amongst the drawings were views of Glasslough Castle (the seat of Mr. John Leslie, M.P.), Chateau St. Louis, Quebec (the residence of his Excellency Earl of Dufferin), the Methodist Church, Carlisle

Circus, &c. These were lent by Mr. W. H. Lynn. Messrs. Young and Mackenzie exhibited drawings of the new church at the Knock, of the new warehouse at present in course of erection in Victoria-street for Mr. Collins, and also of some private houses. A sketch of a residence for Mr. R. Corry, and also of a mansion at Waterford were amongst the contributions by Mr. R. Watt. Messrs. Jackson and Sons, Mr. T. Hevey, Mr. S. P. Close, Mr. Batt, Mr. Philips and others also exhibited drawings. Mr. C. H. Brett lent a number of valuable pictures, and Mr. John Brown some Greek coins. Mr. John Vinycombe showed a series of cleverly-executed heraldic devices. Dr. James Moore, Dr. Burden, Mr. James Wright, and others also exhibited some choice works of art.

The chairman, in opening the business of the meeting, said—Ladies and gentlemen, I am glad Belfast has such an association as this, and that young men have an opportunity of meeting with those of large experience, who are members of a profession, one of the most pleasing any young man can follow. I cannot say that I am very well qualified to judge of the art which has brought us together, but I can easily tell if a house pleases me in style, decoration and internal comforts after it has been built. I feel, however, that the future appearance of Belfast depends very much on the training and thoroughness of the rising generation of architects. It is pleasing to find they no longer copy so closely as they formerly did. Lately there has been, according to my judgment, more originality of conception and design. Up to a certain period architects appeared to ignore all sanitary considerations. Now, I am happy to notice that these receive as much attention as the decorative branches. The teaching of such men as John Ruskin and Sir Charles Eastlake has done much for architecture. I am delighted with the works of art exhibited all around me. These show an amount of genius in the artists that, with application, patience and perseverance must lead to fame. I have now to call upon the hon. sec. to read the annual report.

Mr. R. M. Young (hon. sec.) then read the report as follow:—

"The committee of the Belfast Architectural Association have the honour to report that during session now closing twelve evening meetings have been held, which were largely attended both by the members and the general public. At six of these meetings papers were read, as follows:—Nov. 8, 1875—'Observations on Church Building,' by Mr. T. Hevey, F.R.I.A.I. Dec. 6—'Notes from an Engineer's Field Book,' by Mr. Conway Scott, B.E. Jan. 3, 1876—'The Arrangement of Materials in Construction to Produce Satisfactory Colour Effects,' by Mr. F. W. Lockwood. Jan. 31—'Notes on the Architecture of Three Italian Cities,' by Mr. R. M. Young (hon. sec.). Feb. 28—'The Science of Heraldry: its Relation to, and Use in, Architecture in the Past and Present,' by Mr. John Vinycombe. March 27—'Some Notes on Construction,' by Mr. L. Livingston Macassey. On the other six evenings of meeting the association formed a class of design, at which the subjects for work were as follows:—Nov. 22, 1875—Font. Dec. 20—Design for a bank for country town: plans and elevations. Jan. 17, 1876—Design for a bank for country town: sections and details. Feb. 14—Hall chimney-piece. March 13—Open timber roof for an octagonal apse, 25 ft. span. April 10—Newel and balustrade. In addition to the sketches exhibited, about 40 in number, three papers—one on 'Fonts,' by Mr. Edward Braddell, and one on the 'Planning of Country Banks,' by Mr. W. J. Gilliland—were read by the members. It is very satisfactory that the attendance at this class continues to exhibit an increase, and that the younger members of the association take a greater interest in it, both by exhibiting and criticising the drawings when submitted. At the commencement of the session a number of gentlemen connected with the society most generously offered a series of prizes to be competed for by the pupils and assistants in connection with the association, subject to the usual conditions. The results of this year's competition will be seen by the report of the judges examining the prize drawings—Dr. James Moore, R.H.A., M.R.I.A.; W. H. Lynn, Esq., R.H.A., F.R.I.B.A.; and Thomas Turner, Esq., who kindly undertook to adjudicate the prizes. The thanks of the associa-

tion are again due to those practising architects who have contributed not only freely to its funds, but also mainly to its success, by the warm interest they have always taken, and continue to take, in all its proceedings. The committee also beg to tender their best thanks to the honorary members who have delivered lectures and presided on various occasions, and to those gentlemen who have so liberally lent drawings and works of art to the annual exhibition."

The report of the examiners was then read, and in it the prizes were awarded as follow:—

No. 1 Class—Two First Prizes—Thomas Duff, T. M. C. Johnstone.

No. 2 Class—1st prize, J. J. Phillips; 2nd prize, James M'Cammond.

No. 3 Class—1st prize, J. J. Phillips; 2nd prize, F. W. Lockwood.

No. 4 Class—Prize, J. M'Donnell.

No. 5 Class—1st prize, W. J. Gilliland.

No. 6 Class—1st prize, W. J. Gilliland; 2nd prize, T. M. C. Johnstone.

No. 7 Class—Prize, Alexander Anderson.

No. 8 Class—Prize, T. M. C. Johnstone.

The Vere Foster Prizes—1st prize, T. M. C. Johnstone; 2nd prize, E. Braddell; 3rd prize, R. F. D. Clarke.

Mr. Samuel P. Close moved, and Mr. MacKenzie seconded, the adoption of the reports.

The Mayor then distributed the prizes.

On the motion of Mr. Watt, seconded by Mr. Vinycombe, and supported by Mr. Lockwood, a vote of thanks was passed amid applause to Mr. Turner, Mr. Lynn, and Dr. Moore, who had so kindly acted as judges.

Mr. Vere Foster having been called to the second chair,

A vote of thanks was, on the motion of Dr. Moore, seconded by Mr. Thomas M'Clelland, passed enthusiastically to the Mayor for presiding.

The business then concluded, and the company proceeded to inspect the various exhibits around the room.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

On the 1st inst. the annual general meeting of the above institute was held, at which the report of the council and the balance-sheet of the receipts and disbursements for the late year were submitted. The new president, council, secretaries, and honorary officers for the ensuing year, were elected. Mr. Charles Barry took the chair, vacated by Sir Gilbert Scott, R.A., and the place of one of the vice-presidents, who retired according to rule, was filled by Mr. Talbot Bury. The following were elected town members of the council:—Messrs. Anderson, Brooks, Cates, Chambers, Cundy, Hansard, Phipps, Knowles, Plumbe, Pullan, Seddon, and Edmeston. Three country members, who are supposed to sit on council, take the place of those who were disqualified as they did not attend a single meeting during their year of office. These country members belong respectively to Dublin, Glasgow, and Gloucester. The new auditors, a fellow and an associate, are Mr. Alfred Strong and Mr. Meeson. The rather large number of eleven members have retired, and the loss of members by death is also unusual. Some items in the receipts and expenditure challenged criticism, and to some extent were the subject of remarks upon the part of some of the members, as also were matters in the administration of the affairs of the institute. Like all bodies in our midst there is room for considerable improvement in the departments of the Royal Institute of British Architects, but it is scarcely a matter for wonder. There is nothing too sacred to be attacked in these days for the purpose of healthy reform. Even the select Royal Academy must give way and put its house in order. Doubtless, if not in good time, at least at a date not much behind time, the institute will necessarily accommodate itself more closely to the requirements of the profession and the age.

LECTURES ON ARCHITECTURE.*

(Continued from page 132.)

IN approaching Pompeii, we come first on the street of the tombs. This was the principal approach, and is believed to have formed part of that famed Appian Way which extended from Rome to Capua. Amongst the Romans, the construction and the care of the public roads were considered a matter of the greatest importance, worthy of the care of emperors. Their construction showed the massiveness which Roman work ordinarily displays. Many examples remain, and some of you are doubtless familiar with the portion of the Appian Way which is still intact and well preserved, and in which you may now find the sightseer of the nineteenth century enjoying his afternoon drive amidst the ruins of Imperial Rome.

The large upper stones which form the surface of the road are not, perhaps, adapted to the delicate springs of the London coach-builder, but they are carefully jointed, and after the lapse of centuries are in their original position, and available for daily use. Great care was taken with the foundation, which was composed of layers of stones and gravel, and the roads once made must have lasted for ever. The streets of Pompeii are all paved in this manner. There were no drains, nor did those enemies of the modern road-maker, the gas and water engineers, tear up the surface as soon as it was laid, and drive to despair those who were responsible for its maintenance. Along the main approach to the city, we find the tombs, varying in style and taste, according to the idiosyncrasies of their founders.

As regards intramural interment, the Romans reached a conclusion which we have but too tardily accepted.

In some places, and in very rare cases, the honour of sepulture in the Forum or other public places was sparingly permitted, as a mark of special distinction; but, as a rule, neither interments nor burning were permitted within the city. As a natural consequence, the monuments were also outside the gates, as we see in the Appian Way at Rome, and in the street of tombs at Pompeii. They were held in great veneration, and it does not seem to have been necessary to enclose them, or afford them any protection beyond that which their own sanctity supplied. Sumptuary laws restrained the extravagance of cost and epitaphs into which a rich society is tempted to glide; and for slaves, and for the very poor, Horace speaks of an enclosed space at a distance as a "*commune sepulchrum*."

The Pompeian street is about 14 ft. wide, and shows the ruts worn by the traffic. On each side are the monuments of those who had borne some office, and to whom the erection of memorials had been decreed on public grounds. The cemeteries for general use were further removed from the gates of the town.

The monuments display every variety of design and scale, from the simple altar or bas-relief to the more ambitious structure, which, being furnished with a door, permitted the sepulchral vases containing the ashes of the dead to be placed within, as in a temple.

We have lately had a revival of interest in these matters, and it is high time that we should see our way clearly in respect of them. In our great cities, the dead press upon the living. Cemeteries once suburban are now the centres of large populations. Air is poisoned, springs are polluted. I cannot enter now into the important questions which this state of things will readily suggest to you; but it is not without interest to observe how they were dealt with by the Romans, whose care for the ashes of their forefathers was a sacred and pious duty.

At the entrance to the city the street is spanned by an arch over the carriage-way, with two side-openings for foot-passengers. The archway was closed, when required, by a

portcullis, and there was a second gate inside for greater security.

The walls are of solid construction, with large stones laid horizontally. Some of them are 4 ft. or 5 ft. in length. The upright joints are not accurately vertical, but incline more or less—a feature not uncommon in Greek work. Some portions appear to have been patched or repaired, in a different style, with rubble work or brickwork. The latter is arranged in the diagonal manner known as *opus reticulatum*, another feature familiar in Greece.

The walls were double, and with a connecting arch formed ramparts about 20 ft. wide, and from 25 ft. to 30 ft. from the ground. Towers were constructed at intervals; they were about 30 ft. square, and projected 7 ft. beyond the general line of the outer walls. Battlements crowned the upper surface of each wall. These differed from the battlements of Mediæval castles in having a special arrangement of plan for the greater security of the defender. Each battlement was constructed of large stones, with a piece returned inwards—an arrangement which not only increased its defensive advantages, but also added to its structural solidity.

Having passed the walls, the street becomes closely lined on each side with houses and shops, possessing little or no architectural interest externally; for with the exception of their public buildings, the Romans do not seem to have cared to make their houses ornaments to the public streets.

In the Forum, to which the principal thoroughfares led, we shall find the public edifices which formed the chief adornment of Pompeii. In the Forum of Roman cities, as in the great square of modern towns, we expect to find those buildings which, from their devotion to public purposes, are open to all. The temples of the gods, the Basilicas, or Law Courts, the Senate-house, or Assembly-rooms, the public granaries, Treasury, and Government Offices, were all congregated in the Forum, as well as market-places, and porticoes for various trades and pursuits. These buildings are marked in the plans on my right.

It was not unusual to use the Forum, in the absence of an amphitheatre, for gladiatorial shows, and it was often in such cases surrounded by colonnades or porticoes, under and over which spectators might congregate. The colonnades also afforded an agreeable protection from the Italian sun, and served the same purpose as the arcaded streets, so common now-a-days in southern towns, to the picturesqueness of which they are no mean addition.

At Pompeii, the Forum possessed these colonnades. There were also theatres, and an amphitheatre, but these were erected at a later date than the Forum. The latter was undergoing repairs at the time of its destruction, and large blocks of marble, partly worked, and evidently under the hands of the masons, were found among the ruins. It was evidently the centre of Pompeian public life, which, according to the Roman customs, was far more engrossing than with us. The streets leading to the Forum had iron gates at their entrances; to be closed at night or in the case of tumult. They would also have been useful in restraining and regulating the crowds attendant on shows or public meetings. There had been an alarming earthquake in the year A.D. 63, and this had caused much damage to the temples and other buildings of the Forum. The consequences of this calamity and the alarm caused by it were so serious, that the abandonment of the city had been discussed; but after a time confidence returned, and the Pompeians set to work to restore the public monuments, in ignorance of the possibility of the tremendous misfortune which was soon to befall them.

It is difficult to be quite sure of the particular destination of each of the buildings which surround the Forum of Pompeii. Indeed, there is some reason to think that the works of restoration, which were interrupted by the eruption, were connected with some changes of arrangement then in course of

execution. As to the more prominent structures, however—the temples—little doubt can exist.

The grandest of these was at the northern end, and has been usually termed the Temple of Jupiter. Sir W. Gell thinks it was the senaculum, or place of meeting of the decemviri, and certain peculiarities of internal construction favour this idea. Such meetings were commonly held in consecrated places, and on this assumption the edifice in question might have been both a temple and a senate-house.

It is by far the grandest piece of architecture in Pompeii, and in its original condition must have presented an imposing appearance. The design of Roman temples was so evidently borrowed from Greece, that it is perhaps as well to point out here some of the differences between the two types. The temple at Pompeii is a fair specimen of the Roman manner; and the Parthenon may be selected as an example of Grecian principles of design.

In the Parthenon, as you may see, the interior is surrounded by a peristyle or colonnade—a feature of great beauty, where the building crowned an eminence, as at the Acropolis. The effect of colonnades in such a position, and under the influence of the sunlight of the fair south, is, I think, sufficient justification for such a feature. It would also protect the inner wall from moisture, and from heat, as to which latter point it would serve the same purpose as the verandahs of India.

We know now how largely colour entered into the architectural compositions of the Greeks; and if the walls were painted (as probably was the case), the shelter and protection afforded by the colonnades must have been very valuable. They are scarcely wide enough to have allowed processions to use them with dignity or convenience, but their width is just what we should expect to find, on the protective theory. If they were deeper, they would have cast too large a shadow, and would have marred the effect of the paintings on the walls.

The climate of Greece was, as we know, favourable to the habits of a people who passed much of their time in the open air, and we are struck by the small space occupied by the cella, or covered interior, in the plans of their temples. It was natural that they should revel in external effects, regarding the sun as their best friend. By deepening the porticoes at the ends, and adding a second row of columns, the entrances were duly marked by an increased depth of shadow, contrasting beautifully with the lights and shade of the peristyle.

If we turn to the Pompeian structure we shall notice the changes introduced by the Roman architects—changes which, in an artistic sense, are not in themselves improvements. In the first place, the peristyle has disappeared. The temple, being surrounded by other buildings, was not an isolated structure in the sense in which the Parthenon was, and it may be presumed that, in the middle of a town, ground for a site was not very readily attainable. The portico at the entrance was deeper and more spacious, by reason of no inner columns being introduced. On each side the portico was flanked by triumphal arches, and the whole front was evidently designed with special reference to its position, and intended to be seen principally from the Forum. A surrounding colonnade would, therefore, have been, to a great extent wasted. The interior was also very different from that of the Parthenon. In that example the cella is small relatively to the whole extent of the structure. Here the internal arrangements have gained in importance. By the suppression of the side colonnades, space was obtained, and the cella has expanded to the whole width of the portico.

At the end furthest from the entrance there are three vaults, with a passage behind them, connected with a staircase. If the interior was used, as conjectured, for meetings of senators, these vaults may have contained records or other valuables, and the staircase

* Second lecture. By Professor E. M. Barry. Delivered at the Royal Academy, London, on 2nd of March. See ante.

may have given access to the platform or rostrum, from which addresses could be delivered to the people below. There is a similar arrangement in the Temple of Isis, which seems to have been one of the most fashionable shrines of Pompeii. The rites and ceremonial of the worship of Isis are enshrouded in mystery.

Another point of contrast between the two types of temples is height. At Pompeii they are elevated on a podium, or, as we should call it, a basement. The temple-builders of Greece chose, as a rule, lofty and commanding sites for their buildings. It was not therefore necessary for them to seek to elevate the latter. Had they done so, the exquisite charms of repose and contrast would have been lost. All that was necessary was to give such a base to their work as would prevent their columns from seeming to start unprepared from the ground. They were not fond of bases for their columns, for it was not until after the decline of the Doric style that this feature was introduced in the Ionic and Corinthian orders. We therefore find in the Parthenon no base, plinth, or podium. Three steps projecting slightly beyond the columns gave a foundation to the structure, about corresponding to the projection of the cornice. They were evidently proportioned to the general architectural effect of the building, with the same care which the Greeks showed in every detail of their work.

Repose and refinement, as the leading principle of Greek works, were attained by compositions which relied on width rather than height, just as power and energy are represented by the towering structures of Mediæval architects.

The Romans lacked much of the pure taste of the Greeks, and, building in the midst of crowded towns, they sought for an imposing character in their works by giving them elevation, so as to separate them from the meaner structures around them. A podium and flight of steps became consequently common expedients, and we find this exemplified in the temples of Pompeii. A further increase of height was obtained by the difference of the order of columns which they employed.

The Greek order, *par excellence*, is the Doric, of which the Parthenon is an example. It is true that the Greeks allowed a sparing use of the Ionic order, as at the Erechtheum, and it was doubtless found to adapt itself to some special conveniences, not admissible under the stronger Doric sway. The Corinthian order was not accepted until the decline of art had begun to show itself, and was only employed in structures of less importance than the great temples of the gods.

The height of the Doric columns of the Parthenon was about six diameters; that of the Corinthian columns of the Temple of Jupiter at Pompeii was about ten diameters, or the same as the order known as that of Jupiter Stator at Rome. The effect of the portico of the latter was therefore quite different from that of the Parthenon, apart altogether from the divergence of the details. The principle of its composition was not the same, for by its reliance was placed on height rather than on width.

It is clear that these deviations were the result of deliberate intention, and not of ignorance; for the Pompeians were, as we have seen, more Grecian than Roman in their extraction. Moreover, we find near to the theatres remains of a Greek temple, which, though not of the purest type, yet sufficiently illustrates the principles of which I have been treating. It was placed, according to Greek custom, on an elevated site. It is not, however, of the Doric, but of the Ionic order, with columns about 8 and two-fifths diameters in height. These have characteristic Grecian bases, without the lower square member which is met with in Roman examples. The volutes of the capitals are all angular. The restored elevation of the front before you will serve to explain the differences I have endeavoured to point out between Roman and Greek temples. The Greek temple at Pompeii was in ruins at the time of the destruction of the city, and little more

than its foundations can now be perfectly traced; but, from our knowledge of the proportions which were usual in structures of this nature, and from the fragments of its architecture which have been disinterred, we have little difficulty in discovering its general design.

The question of lighting temples is one of great interest, and on which there has been much diversity of opinion. Some have thought that no external light was admitted, and that artificial lights only were used, for greater solemnity, as we see at the present day in shrines of great reputed sanctity in the East and in some Roman Catholic churches. Others have suggested that there was a large opening in the centre of the roof, admitting light and air as by a skylight. It is easy, however, to see that such a plan would render it difficult to avoid external disfigurement, while it would also fail to protect the interior from rain and snow.

Mr. Fergusson has propounded a third theory, namely, that of a clearstory, with openings in the roof to allow light to pass through it. The Egyptian custom is in favour of this suggestion, for in many of their temples, as you may see—for example, at Karnak,—such a plan of lighting is adopted, and with a very striking effect. You will be able to compare this plan with Mr. Fergusson's suggestion in the drawings before you, remembering that one represents fact and the other theory.

That the Greeks were acquainted with Egyptian work, there can be no doubt; and as they transferred the rites of Isis to their own soil, there is no great difficulty in supposing that they may have also borrowed some architectural ideas from the banks of the Nile.

It may, perhaps, be objected to the plan proposed that it is not quite consistent with the simplicity of the form of the roof, which would not readily suggest any compilation of internal arrangements. There would also be some difficulty with gutters to carry off the water, and no evidence has as yet been discovered to show how this was effected.

We have seen that the temples of the Romans were used sometimes as places of assembly, and there is, therefore, in their case, a strong presumption in favour of their having been arranged to receive direct light and air; but I do not think this applies at all with equal force to Greek work. If we consider the small dimensions of the cellæ of Greek temples, there is no great difficulty, as it seems to me, in supposing that they depended chiefly on artificial modes of lighting. They were shrines for the safe custody of sacred statues of the gods, not places in which crowds could assemble, and any openings of the roof would have affected injuriously their protective qualities. The doors, being thrown open, would also admit a greater amount of light and air in a climate like that of Greece, than we can readily imagine in our land of fogs.

The simplicity of Greek principles of design must also be insisted on as a difficulty in the way of any suggestion that they employed elaborate contrivances. If they required light in their temples, the obvious course would have been to place windows in their walls, and this is precisely what was done at the Erechtheum and also at Agrigento. May it not well be the case that custom varied, and that some temples were constructed without that external provision for light and air which was thought necessary for others? At the Erechtheum the latter was doubtless the case, and the architect placed windows in the walls. May we not conclude that if they had been needed at the Parthenon they would have been supplied in a similar manner? The chief beauty of the Parthenon was the exterior, and it would scarcely be possible to arrange any openings in the roof which would not be more or less of a blot on its fair proportions.

Turning now again to the Pompeian temple, I think we must conclude that it was lighted by some such plan as those which I have just referred to. The interior was evidently a

place of importance, and, if used for assemblies, would require light and ventilation. From the great size of the portico, and the absence of any inner lines of columns, it would have been possible to partially light the interior from over the door, or by means of openings on each side. This would have the advantage of leaving the side walls unpierced, and thus susceptible of decoration; but as these latter are not surrounded by colonnades, and do not form a very important part of the design, I am inclined to think that side windows may have been placed here, in which case the interior of the temple would have had abundance of light and ventilation.

(To be continued.)

THE TAY BRIDGE.

THE first of the great spans of this bridge, which will be thirteen in number, was successfully floated on the 27th ult., and placed on the two piers prepared for its reception on the north side of the river. During the previous weeks the erection of this set of girders has been in progress on a jetty specially prepared for the purpose on the south side of the river. The great pieces of iron forming part of the structure are brought by steamer from Middlesbrough, where they are manufactured in the extensive works of the contractors, Messrs. Hopkins, Gilkes, and Co. (Limited). Some of them have a length of 88 ft., and weigh nearly 3 tons. At the bridge works they are fitted together, being lifted to their places by a very high and strong travelling-crane moving along the jetty. A blast-fan, driven by steam-power, supplies the blast for the rivet furnaces, by which means great saving, both in time and money, is effected. In order to float the ponderous mass, the weight of which is nearly 200 tons, part of the platform on which it is built is lifted out, and in each of the two gaps a strong barge, measuring 70 ft. in length and 28 ft. in width, and capable of carrying 200 tons, is introduced shortly after low water. The rising tide brings them soon in contact with the girders, and finally lifts these off their support. Two steam-tugs take the floating mass in tow, and seem to be able to move it at a rapid pace. The sight of the girders as they leave the shore is a strange and truly interesting one. The length of the span is 249 ft., the height 27 ft., and the width 14 ft. 10 in. A timber structure is built upon each barge to keep the underside of the iron to a convenient height above the water, so as to allow it being floated over the top of the piers. Once arrived there, the barges are safely moored and the position of the girders adjusted as accurately as possible, after which there remains nothing to be done but to take care that the position is kept while the tide recedes and leaves the girder on the piers, while the barges are floated away. Afterwards the girders have to be lifted up to a height of 88 ft. above high-water line, and the pier, consisting of six iron columns, has to be erected. This is done by means of specially-designed hydraulic apparatus. Of the fourteen piers destined to carry the eighteen large spans, the foundations of six are now placed in position, and either completed or in rapid progress.

When finished, the Tay Bridge will give wonderful facility to railway communication from England to the north of Scotland *via* Edinburgh; but if the projected great undertaking between Granton and Burntisland was carried out, the benefit to the travelling public would be the greater. The steam ferries which are necessitated between Granton and Burntisland, and those between Tayport and Dundee, have long been a great bar to that amount of direct traffic through this route which it would otherwise have secured. As it is, a large amount of traffic is diverted around by Stirling and Perth to Dundee and further north. If the Fifth Bridge was carried out, without doubt a large amount of the traffic from London and the south, instead of passing through Glasgow, would proceed

north-east through Edinburgh. The completion of the Tay Bridge, at the same time, will be a great acquisition to the trade of the north of Scotland, and to "Bonnie Dundee" in particular.

ENTRANCE LODGE, ROYAL BOTANIC GARDENS, BELFAST.

THE existing lodge next University-road being in a very dilapidated state, the directors intend to rebuild it as speedily as possible; and with that object they have obtained plans.

The arrangements consist of spacious inner and outer vestibules, ladies' and gentlemen's rooms, caretaker's apartments, closets, &c., &c.

The opens are to have carved caps and key-stones and walls faced with best perforated brick. The fittings are to be pitch pine, stained and varnished. The pediment is to contain an illuminated public clock.

The plans have been prepared by Mr. William Batt, jun., of Donegall-place, Belfast.

THE WATER-POWER OF IRELAND.*

MUCH reference has been made in scientific treatises, papers, and reports, to the resources of mechanical power afforded by the rivers, streams, and lakes in Ireland; but, since the construction of the works on the river Bann, the increase of its development has not been very considerable, and several attempts which have been made have entirely failed. Water-power exists under serious disadvantages. The supply of water is small in summer when most wanted, and too large in winter; its existence may be at a distance too remote and in a place where it cannot be reached by the person who wishes to employ mechanical power; and if the manufacture of goods or the employment of power be established where the head of water is obtainable, the serious obstacles of the works doing injury to adjoining properties, the claims for consequential damages, the want of facilities of carriage, and there being no centres of population to supply workers, may lead to the stoppage and ruin of the concern. It is the duty of the engineer to point out how some or all of these obstacles may be overcome or removed, and, by balancing the advantages and disadvantages, show how the manufacturer may be able to compete in the open market with others more favourably circumstanced. Steam-power is the great competitor with water-power, and must necessarily be produced much cheaper in Lanarkshire or Lancashire than in Ireland; but when the latter can be conveniently obtained, the wheel or water engine by which it is applied can be erected, maintained, and attended to at much less cost and trouble than the steam-engine, especially as regards Ireland, where coal, the producer of steam, is so much dearer than in the manufacturing districts of Scotland and England.

Considerations of this nature led to the construction of the works about to be described. They were constructed in 1874 for Colonel the Hon. Charles White, under the agency of W. Lane Joynt, Esq., D.L., for the supply of water to his mansion and demesne, situate near the confluence of the rivers Fergus and Shannon in the County of Clare. A large amount of full-grown timber exists on the estate, and it was thought advisable to obtain a steam-engine to cut it suitably for the market. The engineer engaged to report on the water supply, hearing of this proposal, and seeing the advantages of the water-power obtainable, suggested two schemes. One of them included only the supply to the mansion and offices; the other

was of considerable dimensions, and included in addition the supplies to large ornamental fountains, the gardens and lawns, full provision for extinguishing fires, and for driving a turbine-wheel for sawing, hay-cutting, corn-bruising, &c., in lieu of the steam-engine already referred to.

The larger scheme was carried out in 1874, after much consideration on the part both of Mr. Lane Joynt and the engineer, and is as follows:—There is on the estate a lake of 35½ acres in extent, and 39 ft. of maximum depth, and about three-quarters of a mile from Cahercon House; its elevation is 205 ft. above ordnance datum, and 165 ft. above the ground floor of Cahercon House. The natural drainage area is 314 acres, and a catchment drain was made adding 126 acres, bringing the entire catchment up to 440 acres. Taking the rainfall at 30 in., which is an under estimate, and three-fifths to be available, the annual yield will be about 30,000,000 cubic ft. Storage was obtained by tapping the lake 5 ft. below its winter level, and by banking up the outlet to maintain that level, admitting 4½ millions of cubic ft. capable of being drawn off in dry weather for the purposes of the scheme. The quantity of water that will be consumed will amount to 120 cubic ft. per minute, compensation and fountains included, so that the storage will give a supply 10 hours per day for 60 days, or 10 weeks, which with the natural run of the streams and springs is an ample provision against the severest drought.

The supply being taken from the top of the lake at the nearest part to the house and offices, the intervening high ground for a distance of 450 yards, or over one quarter of a mile, had to be pierced; and as the slope towards the lake contained a deep floating bog, and the slope towards the house hard rock, the work presented considerable difficulty and cost. The levels of the summit of the ground being favourable for a siphon, that means was originally proposed as being the simplest and least costly way of overcoming the difficulties; but it was thought necessary, in order to prove the question of cost, to make detail drawings also of the method of deep cutting, so as to take out the water direct at the lowest required level. Estimates from contractors were taken for both methods, all of whom preferred the siphon, which was executed at about £500 less cost than the other.

The Wurttemberg form of the siphon is adopted; it has equal lengths and inclinations from the summit to the ends; it goes vertically into a building in the lake, and into a screen chamber at the other side of the hill. On both ends ordinary valves are placed in the necks of turn-up, bell-mouthed bends. These bends have the same effect as if the ends of the siphon were kept continually immersed in 3 ft. of water. The bell-mouths are fixed exactly to the same level, so that should the water fall too low in the lake, and the screen chamber be empty, the siphon will remain charged; and by this arrangement also the siphon may be discharged towards either end, according as the level of the water in the screen chamber is higher or lower than that of the lake. Additional catchment areas can easily be secured when the works have to be extended, and if drains be made to run into the screen chamber, the water can be carried back by the siphon and stored in the lake.

Compensation for a very short time in dry years has to be given from the lake at its outlet into the stream below, and provision is made for that purpose by a valve and pipe through the embankment at that place. The valve is partially opened when the water from the lake ceases to run over the overflow made into the stream.

The method of getting the air out of the siphon, and charging it is exceedingly simple, durable, and effective. The summit of the siphon and the catch-water drain which passes near to it, are placed at such levels that the water is taken by a 6 in. pipe from the latter into the former; hence, the deeper cutting required for the siphon pipes, which rise only

6 ft. above the top water of the lake. There is a plug valve on the summit worked by a screw in a vertical branch pipe. The water from the drain is allowed to enter the siphon pipes slowly, not filling the plug hole, but only so much as to allow space for the returning air to escape freely. The charging takes between four and five hours, after which the summit plug-valve is closely and firmly screwed down and the end valves opened, and, so far as experience goes, it will remain without the necessity of being touched for five or six months. Nor is the ordinary working of a more complicated nature than if the pipe had run out of the lake at a low level. All that is necessary for emptying the screen chamber is to shut one of the end valves and the water drains off by the supply pipe. The end valve in the well is the most natural and convenient to be worked for this purpose.

The siphon pipes are 12 in. diameter, turned and bored; and, as an additional precaution to secure air-tight joints, a space provided in the socket in front of the turned and bored part was filled with molten lead, and firmly set up with caulking irons in the usual manner of making lead joints. These pipes were laid with great care, and the slightest defect has not yet been discovered. Through the bog a layer of brushwood was put in the bottom of the pipe-trench to prevent the pipes from sinking.

The masonry in the lake, of horse-shoe form, is built water-tight, and, with stop-planks in the grooves across the open end, forms a chamber which can be emptied for the repair of the valves when necessary. In ordinary work there is a wrought-iron grating in the grooves, 3 ft. in depth, below the stop-planks, for the admission of the water.

The screen chamber is cylindrical, 12 ft. diameter and 13 ft. deep inside. It is wholly built of Portland cement concrete, and perfectly water-tight. The concrete was composed of 1 of cement to 2 of sand, mixed first like mortar, then 4 of small stones, quickly added and dashed into position. The small stones were the natural excavation of the rock made for the chamber, belonging to the group of sandstone grit, and flags of the coal formation. The screens are placed across the diameter of the chamber, and consist of 6 panes, each about 6 ft. by 3 ft., and occupy 9 ft. of depth from the bottom upwards; over these, for the remaining 3 ft. at the top, there is close 4-in. planking of red pine. The whole is covered with cast-iron plates resting on beams.

The main pipe to the turbine consists of 75 yds. of 9-in. pipes, commencing in the screen chamber with a 9-in. valve for shutting the water off the main. From the lower end of the 9-in. pipes the main is 8 in. diameter to the turbine at the offices, and 1,000 yds. in length. A 6-in. branch is taken off near the offices for the supply of fountains, fire-hydrants, the garden, lawns, and the ordinary domestic purposes.

An interesting geological fact occurred by the opening of the trench in the bog and the lowering of the lake. In the peat bog, 6 ft. below the surface, there was a densely-intertwined layer of the roots of a pine-tree forest. They evidently had grown in peat to maturity, in the position in which they were found, and the period since their decay was sufficient for the accumulation of 6 ft. of that substance over them. The same forest extended under the lake, but the water had washed the roots bare. Their white appearance in the sunshine struck one, at first sight, with the thought of the "Valley of Dry Bones." The forest must have been very ancient, as there could have been no lake formed at the time of its existence, but the fact that only a few—perhaps not more than half a dozen—of the trunks were seen, leads to the conclusion that the trees grew within the period of man, and were removed by his hand. The roots were in the exact position in which the trees grew, and these, with the direction to which their stumps pointed, seemed to indicate that while the present prevailing wind is the south-west, it

* "The Supply of Water to Cahercon Demesne, illustrating the advantageous application of the Water-Power of Ireland." By James Andrews, C.E. Read at meeting of Institution of Civil Engineers of Ireland, on the 2nd inst.

must then have been the north-west. Hills and valleys guide the direction of the wind, and some convulsion of the earth's crust may have altered these and formed the present lake.

The lake water is dark in colour, and not agreeable for drinking purposes. To remedy this one defect, there is a well, 70 yds. distant and 20 ft. under the level of the ground floor of the house, affording a small supply of very pure water from a spring in the hard sandstone flags of the coal measures, and is sent into the house by the following contrivance, distinct and in addition to the supply from the lake, which is used for water-closets, washing, slopping, &c.:—One of Duncan's double-cylinder water engines is fitted to a double-action pump, with suction pipe into the well, and driven by lake water with a pressure of 180 ft. A $\frac{1}{2}$ -in. lead pipe from the 6-in. main supplies the engine, and a $\frac{1}{2}$ -in. rising one from the pump supplies the house. The lake water is kept constantly turned on the engine, which works only when the house taps are opened, and stops when they are shut; because, when no water escapes from the taps, equilibrium of pressure is produced on both sides of the engine pistons, and motion is stopped. On again opening the taps the equilibrium is removed, and pumping into the house instantly commences. Hence, the water from the well, 20 ft. below the floor level, is drawn from taps, having all the simplicity as if it were delivered by gravitation with the lake pressure; or, in other words, the coloured lake water, by the intervention of this simple contrivance, is exchanged in its course for the pure spring water.

One of Schiele's turbines was selected and fitted up for sawing the timber on the demesne, with provision for driving chaff-cutter, corn-bruiser, grindstone, &c. There is something very remarkable about the performance of this class of turbine wheels deserving of notice. The one in question is only 12 in. diameter and 4 in. broad; its ports or buckets in the periphery, from which the water issues, are only $\frac{1}{2}$ -in. by $\frac{1}{2}$ -in., and 32 in number; they are in two rows, 16 in each row. It makes upwards of 700 revolutions per minute with the saw in gear running empty, and gives off then upwards of 9 horse power. There is a pulley on the wheel spindle 30 in. diameter, and one on the saw spindle, 10 in. diameter, driven by a 6-in. leather belt, raising the speed of the saw three times that of the wheel, or making about 2,100 revolutions per minute. When in full work the speed of the saw is reduced to about 800 revolutions, and the difference, or the force of 1,300 revolutions, is the indication of force exerted by the teeth upon the wood. Two saws were provided (in order to have a spare one in case of accident), one of 8 ft. 6 in., and another of 3 ft. diameter. The latter was observed to cut an old seasoned oak tree, as hard as ebony, 10 in. deep, this being about the extent of its power.

When there is no discharge from the main pipe the water in the screen chamber and that in the lake are exactly on the same level. When the saw is in work the difference of level between the former and latter, if the siphon be solidly charged, is about 18 in. Thus, the quantity passing through the siphon, being the same as that required to do the work, can be calculated, and is found to be 75 cubic ft. per minute. This quantity, from the elements of fall, and size, and length of pipe, would give 19 actual horse-power, but in the case in question not more than one-half, or about 50 per cent., effective horse-power is obtained from the teeth of the saw. A water engine with double cylinder might do more effective work, but, requiring multiplying machinery to obtain speed, it would be greatly more expensive to provide and maintain.

The maximum value of the fall, with the size of pipes laid, is equal to 24 horse-power actual, whereas, only 19 being obtained, it is possible that if two turbine wheels were fitted to act on the same spindle, 16 or 18

effective horse-power would be given off. The maximum effective fall or head is about $\frac{1}{2}$ of the whole; the loss of the $\frac{1}{2}$ being required to give velocity, and overcome the friction of the moving column of water.

In conclusion, I have to remark that the works are by no means adequate to utilise the whole quantity of available rainfall. By raising the lake, which could be easily and cheaply done, the whole could be impounded. The available 30,000,000 cubic ft.—the entire annual amount—utilised in 300 working days, gives 100,000 cubic ft. per day, and in 10 hours is equal to 166 cubic ft. per minute. If the siphon were 18 and the main 12 in. diameter, 58 actual or 38 effective horse-power would be obtained, which is a large power from such a small area.

The total cost of the works as constructed, including all connected with the turbine, sawing machinery, service pipes, hydrants, sets of stand-pipes, fire-hose, water-engine for raising well water, store pipes and tools, and everything to render them in complete working order, was £3,636.

This example of the acquisition of mechanical power demonstrates that, on account of the increased facilities at the present time for the carriage of goods by railways and steamships, with some amount of liberality on the part of employers of labour to erect workmen's houses, and also on the part of landlords to give facilities for acquiring lands and water-rights for buildings and reservoirs, thriving industries may be largely increased in Ireland. Why should not the cotton industry, and also bleaching, dyeing, turning, &c., be carried on at as great a distance from Dublin as they are from Glasgow and several English towns? The raw cotton could be delivered as cheaply in Leinster as in Lancashire, and the cheaper labour and less costly mechanical power from water in the former, would give it the advantage of competition in the open market over the latter, and, with these and other advantages, add immensely to the amelioration of the working classes, and the increasing "prosperity of Ireland."

HANDICRAFT AND HANDICRAFT TOOLS.

(Continued from page 127.)

ON ADZES, ETC.

CUTTING edges are sometimes doubled, and then the chisel form passes into the group of tools in class 2. The most common of these is the ordinary household scissors opened and closed by hand; when required for heavier work, then one handle is fixed in a vice, and both hands can be employed upon the other lengthened arm. At other times this double chisel opens with a spring, and then the workman only employs himself in closing such upon his work. Compound lever power is sometimes introduced, and as an example of this, here is a pair of very light shears called the "little giant," the mechanical contrivances in which are so adjusted that we can, smoothly and without jar, cut an iron rod 1 in. wide by $\frac{1}{4}$ in. thick. The lightness of the tool, and the ease in cutting are very noticeable. It is an American contrivance, and the bar of iron is cut with the same ease as though it were of lead. This results to some extent from both jaws approaching each other. The arrangement of levers, cams, and stays is worthy of examination after the lecture.

The use of the chisel, however skilfully handled, is not satisfactory over a surface wider than itself, although widened and made two-handed, and although the gouge has succeeded, or rather been planned to precede it, there is still a tendency almost unconquerable for the tool to follow the leadings of the fibres rather than cut through them at a very slight obliquity.

The only guidance either the axe, the adze, the pick, the gouge, or the chisel receive, is from the skill of the workman. Hence these tools produce such different work in different

hands. However much it may be desirable to encourage skill in the workman, it is quite as desirable to furnish him with implements which shall make the least demand upon the exercise of this skill—which shall, in fact, so assist the skill in one or more directions as to permit all its care in some other direction. The assistance which the chisel needs is such as shall not only prevent it running deeper into the timber than is desired, but shall enable it to be used with equal facility upon a broad as upon a narrow surface.

Given a rough piece of timber, 9 in. wide and 5 ft. long, to be smoothed by tools guided only by the handicraft skill of the workman, setting aside the adze as dangerous and unsuitable, the probability is that the tools selected would be gouges and chisels of various breadths and curvatures. The order of use would probably be, first, the narrow and deeply-curved gouges, these to be followed by the shallower and broader, these again to be followed by the chisels.

Let us consider what these tools would respectively accomplish. The timber is rough, as from the axe or pit-saw. The small gouge would corrugate the surface, the second gouge would enlarge the corrugation, and the chisel might render it more irregular. Such considerations as these, combined, doubtless, with others, led to the designing of what may be generally called the "guide principle," and this has been extended to various branches of artisan labour. At present we are only concerned with the application of this principle to gouges and chisels. This guide principle may consist of a guide as to the depth of cut, or as to the form of the surface, or as to the direction of travel, or as to the correction of cross or longitudinal irregularities of surface.

The depth of cut is that which probably first presented itself as an important appendage to a chisel, and it has led to a form of tool of a very useful construction, although of limited range. The instrument is called a "spoke-shave." In this case the tool is that with the guide principle introduced, the depth of cut being determined by the nearness of the edge to a parallel wooden handle.

This tool, owing to the position of the application of the power, viz., the hands, and the tendency of resistance by the work to turn the whole tool in the hand, is not of general use; where, however, the curvature of surface varies, the parings to be removed are light, and the workman can have convenient access, the tool is one capable of doing good work, and, in some respects, possesses advantages over the plane, to which it probably formed an introduction.

The plane, in its most simple form, consists of a chisel inserted at an angle into a box, generally of wood, and with the cutting edge of the chisel projecting through the bottom of the box. If the actions of a workman be noted as he is smoothing wood with a chisel alone, it will be seen that he holds the bevel edge on the wood, and so elevates or lowers the handle as to secure a proper and efficient cut. Then he advances the tool in a line at right angles to its cross section. If, now, instead of thus continuing to hold the tool, the chisel was so fixed in a moveable piece of wood as to be at the same angle as the workman required, then, if the mouth were broad enough, and the instrument were propelled along the wood, a shaving would be removed very nearly the same as that obtained from the chisel alone.

In the arrangement thus sketched the workman would be relieved from the care needed to keep the tool at a constant angle with the surface of the timber. There is, however, a fixity of tool here, and consequently an optional or needful adjustment called for by any varying condition of the problem cannot be had. When operated upon by hand alone, if an obstacle to the progress of the tool is presented, as, for instance, a twist or curl in the fibre or grain of the plank—the presence of a knot—then the workman by hand can adjust the handle, and so vary the inclination of the cutting edge as the circumstances of the case require.

Not so if the tool is securely fixed in a box as described.

Whilst therefore one gain has been had, one loss has been encountered. Can the gain be made to more than counterbalance the loss? This can only be answered by observing the defects of the primitive plane, as hitherto described, and noting what hopeful elements it contains.

1st. The front of the sole of the box will clearly prevent the penetration of the encased chisel into the wood, because it cannot now be drawn to follow the fibre should it lead inwards. Suppose, however, that in the progress of the work such a place has been reached as would have so drawn the chisel inwards. What will happen? Either the strength of the indrawing fibre will be so great that the workman will be unable to propel the tool, or 2nd, if not thus impeded, he must by extra effort separate the fibre and so release the tool. This separation, however, will not be by the process of cutting, but by that of tearing, and shavings so torn off will have left their marks in the roughnesses which attend the tearing asunder of fibrous woods. Thus the tool will defeat the very purpose for which it was designed.

To obviate the difficulty described has exercised much ingenuity, and led to more than one contrivance in planes as generally used.

Now what is it which so forcibly draws, or tends to draw, the tool downwards below the surface of the timber? The forces in operation are the hand of the workman and the tenacity of the fibre. If the tenacity is greater than the power, the workman must stop. That the tool cannot follow the direction of the fibre is clear, because the front part of the wooden sole forbids the penetration, but that it may be brought to a standstill, or must tear off the fibre, is also very clear. The mechanician has therefore to consider how to defeat these tendencies which, as now sketched, result from a collision between the indrawing strength of the fibre and the power of the man to cross cut the fibre by the tool, or else to tear it asunder and leave the surface rough.

It will be seen, when we come to treat of the tools in class 2 (saws, &c.), that the chisel either in its unframed or framed state is not adapted to the cross cutting of fibres. Let us, therefore, for the present, assume that this is the case returning to it hereafter.

Since the tool, as now contrived, cannot efficiently cross cut the resisting fibre, and since that fibre has to be removed, the object must be either to prevent such an accumulation of fibres as will stop the progress of the tool, or to destroy the fibre piece-meal as it is operative for hindrance. Both plans have been adopted. A consideration of the former may prove introductory to the latter which appears in almost all attempts to perfect this tool and its appended contrivance.

As the tool progresses, and the fibres become more and more impeding, it will be clear that a portion of this impediment results from a condensation of the fibre in the mouth of the wooden box. The more numerous the fibres admitted here, the greater will be the condensation. This state of affairs can be partially obviated by a narrowing of the mouth of the plane; such an act of course requires that the introduced chisel should enter less deeply into the timber being operated upon. Although thus abated the cause is not removed, and even if so far abated as to prove no real impediment to the workman, yet the quantity of material removed on each occasion will be so small that the tool becomes one for finishing work only, and not for those various operations to which its present powers enable artisans to apply it.

To be the useful tool it is, the mouth must not be so narrowed, nor the inserted chisel so withdrawn that the shaving is thus the thinnest possible. This led to a contrivance now almost universal, that of breaking the fibre so soon as it is separated from the piece of timber. The designer seems to have considered that as soon as a short length of shaving had been removed, it would be well to destroy the continuity of the fibre, and so

prevent an accumulative resistance from this cause. Hence, instead of allowing the cut-off fibres to slide up the inserted chisel, he bent them forward, in fact, cracked them, and so broke the cumulative indrawing force of them. This he accomplished by the use of what is now called the back iron, and from henceforth the boxed-in chisel loses its identity, and must be regarded as part of an independent tool.

The tool thus built up is called a plane, and from its general utility and capability of adaptation to various forms and conditions, it is well deserving of the high opinions entertained of its powers. Three forms of this tool are in general use in English workshops, called the "jack," the "trying," and the "smoothing" planes. These are on the bench of all workers in smooth, straight surface wood. Although externally alike except in size, they are yet used for different purposes, and each has a speciality met with in its construction. These specialities may now be considered.

After the wood has passed from the sawyer into the hands of the carpenter, the surface undergoes those operations which render it true and smooth. These three planes do this work. The "jack," usually about 15 in. long, and the "trying" plane, ranging from 18 in. to 24 in. long, but, in exceptional cases, far exceeding these dimensions, are to external appearances alike; indeed, some regard the different handles as the only distinctions between them, and that these handles show which must be used for rough work and which for smooth. This is an error. There are other differences, but the main and leading one is the different form given to the edge of the cutting iron.

If the iron of the "jack" plane be looked at from the front end of the plane, the form of the edge will be curved; but the iron of the "trying" plane is straight. Upon the curvature of the edge depends the efficient action of the "jack."

Sufficient has been said of the tendency of the fibre to draw the tool downwards; but it must not be forgotten that the same adhesion of fibre to fibre takes place between the surface fibres as amongst those below the surface. If tools excluded from this course of lectures had entered, we should have found that these connecting surface fibres are separated by the addition of certain supplementary appendages to the tools. The depth to which the plane penetrates has led to the combination in one edge of such supplementary parts.

For the purpose of separating the surface connected fibres, the jack iron is convex. Note now its action. The convex sharp edge is pushed along a horizontal plank, penetrating to a depth determined by the projection of each vertical section below the sole of the plane. The ends of this convex edge are actually within the box of the plane, consequently (sideways) all the fibres are separated by cutting, and are therefore smooth and not torn. The effect of this upon the entire surface is to change the surface from the original section to a section irregularly corrugated. The surface after using the "jack" is ploughed, as it were, with a series of valleys and separating hillocks, the valleys being arcs from the convexity of the tool and the separating hillocks being the intersection of these arcs. All traces of the tearing action of the saw have been removed, and from a roughened but level surface a change has been made to a smooth but in cross-section an undulating one.

The mechanician's next object is to remove these lines of separation between the valleys. For this the trying-plane is required. The trying-plane is longer than the jack, because the sole of the plane which is level is, so far as its size goes, the counterpart of that which the surface of the wood is to be; further, the trying-plane should be broader than the jack, because its object is to remove the valleys and not to interfere with the wood below the bottoms of the valleys. If its action passes below the bottoms of the furrows, then occasion arises for cutting the

side connection of the fibres, and however a workman may sharpen the edge of his trying-plane for this purpose, he in one respect has destroyed one object of the plane, because, so soon as the iron penetrates below the surface, so soon does the effect of the jack action begin to re-appear, and the cutting edge should pass from shape first to that of the second. The result of the trying-plane following the jack is to remove all the elevations of wood above the valleys the jack left; and secondly, to compensate by its great length for any want of lineal truth consequent upon the depth of bite of the jack. Again, the mouth of the trying plane is much narrower than that of the jack; hence the shavings removed are finer, therefore the slope of the iron, or its inclination to the wood may be less than is the iron of the "jack"—hence the line of cut is more nearly accordant with that of the fibre, and by so much the surface is left more smooth from the trying-plane than from the jack, as there is more cutting and less tearing action than in the jack. The reasoning hitherto pursued in reference to the purpose of this sequence of a jack and trying-plane might and does legitimately produce the conclusion that, after the trying-plane has done its duty, the work is as perfectly finished as it can be. Custom, and perhaps other considerations, have established that after the long trying-plane must follow the short and almost single-handed smoothing-plane. So far as the form of the iron of the smoothing-plane is concerned, there is no difference between it and the one used in the trying-plane; each (as across the plane) is straight, the corners being very slightly curved, but only so much as to ensure that they do not project below the line of the cutting edge.

The facet edge and inclination of the cutter to the work, and the position of the back iron are not now under consideration.

It would seem that, whilst the trying-plane levelled down all the elevations left by the jack, and brought the surface of the wood as a counterpart of that of the plane, there might be in the fibre, or grain of the wood, twists, curls, and other irregularities which, whilst levelled, were yet left rough in consequence of the direction in which the cutting edge came upon them. Indeed, this cutting edge, in a long plane, which must advance in the direction of its length, must at times come across a large number of surfaces where the fibre is in opposite directions. The consequence is that there will be various degrees of smoothness; for good work these must be brought to uniformity. This is effected by passing a short-soled plane over the respective parts of the surface in such directions as observation may suggest. Hence the smoothing plane is of use chiefly to compensate for such changes in the direction of the fibres of the wood as the longer length of the trying plane could not conveniently deal with. Hitherto we have regarded the plane as arranged with a "guide principle" which shall always repeat a straight level surface. The guide may however be the counterpart of any required surface. The plane made of iron, now in my hand, has an elastic steel sole which, by means of adjusting screws, enables a workman readily to convert a straight-faced sole into one either concave or convex. This is an American production.

There is also in this and other planes a mode of fixing the iron which deserves more general adoption than it receives—viz., by a cam action. It will often be noticed that where the holding wedge binds on the box of the plane in our ordinary planes, the wood has split. This arises from a commendable, but, in this case, too strict a care for a good fit, hence the wedge is made tight where it should be slack.

(To be continued).

PHILADELPHIA EXHIBITION.—The Centennial Exhibition opened on Thursday. Telegrams say it was a great success. In a future issue we may supply some particulars in connection, and offer some observations upon this commemorative American Exhibition.

CORRESPONDENCE.

THE PROPOSED SCIENCE AND ART MUSEUM.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Whatever may be the result of the negotiations now being carried on for the amalgamation of the Royal Dublin Society with the Royal Irish Academy, for the purpose of carrying out the pet scheme of the South Kensington authorities, and thereby destroying the autonomy of our historic native institutions, the IRISH BUILDER deserves the thanks of all Irishmen, irrespective of sect or party, for its action in the matter. As one who has been all his life an advocate for the extension of Art and Science facilities for the youth of Ireland, and as one also who has been a diligent student in the study of Irish history, architecture, archaeology, and antiquities, I beg to thank you for your patriotic, consistent, and independent advocacy. Hoping, sir, that yourself and your journal may meet with the recognition to which both are entitled, I am, sir, yours truly,

R.I.A.

London, May 12, 1876.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Your advertisement columns this week contain an announcement of a general conference of architects, to be held under the auspices of the Royal Institute of British Architects during the week commencing the 12th June next. The programme is in course of preparation, and will include a list of meetings, at which short papers will be read and discussions take place on—"Improved Dwellings, and Artisans' Dwellings Act;" "General Building Regulations for the United Kingdom;" "the Registration and Classification of Houses;" and on "Greek Art." Visits will be paid to Westminster Abbey, and to some buildings illustrative of the subjects of the papers; and the Institute dinner will close the proceedings on the 16th June. The committee hope that as many architects as are able will attend and take part in the conference; and as it is impossible to invite every architect individually, we shall be obliged if you will allow us, through the medium of your journal, to say that we shall be happy to forward programmes and cards of admission to architects on application to, sir, yours obediently,

ALFRED STRONG, F.R.I.B.A.,

J. DOUGLASS MATHEWS, F.R.I.B.A.,

Hon. Secs. Conference Committee.

9 Conduit-street.

INSTITUTION OF CIVIL ENGINEERS OF IRELAND.

A MEETING of this institution was held in the Museum Building, Trinity College, on Wednesday evening, 3rd inst., Mr. Alexander McDonnell, president, in the chair.

The chairman exhibited and explained the working of Scourfield's patent self-acting lock for railway carriage doors, by the use of which the possibility of accident by insecure fastening is obviated.

Mr. James Andrews, C.E., then read his paper on "The Supply of Water to Cahercon Demesne, illustrating the advantageous application of the Water-power of Ireland," a summary of which we give on another page.

In the discussion which followed,

Mr. W. G. Strype made some observations as to the relative cost of erecting and maintaining water-power and steam-power machinery, with reference to Mr. Andrews' views on the adaptability of the former to the development of manufactures in Ireland.

Mr. A. C. Palles, who had had some experience in the drainage of bogs under the Board of Works and otherwise, thought that although the paper opened up many subjects of interest, it was a question whether the siphon would suit in the present instance,

He thought Mr. Andrews had over-estimated his horse-power, and that a direct course for the supply pipes would have effected a considerable saving.

Mr. James Dillon wished to know if a saving in cost could not have been effected by an open cut from the lake.

Mr. Andrews explained that the ground to be cut through was soft bog, and that the system adopted was the simplest and readiest. If a trench had been attempted, there would have been some difficulty in keeping out the water during the progress of the works; the pipes were cheaper than masonry. As to the cutting through the rock there was not much difficulty—it cost about £7 per yard.

Mr. J. Chaloner Smith, hon. sec., read a paper on "Browne's and Burke's Patent Safety Railway Points" (described on another page) the merits of which were explained by the patentees, and on which the chairman and others made some practical observations.

EXHIBITION OF SCIENTIFIC APPARATUS.

On Saturday the Scientific Apparatus Exhibition was opened by her Majesty at South Kensington. The objects, which amount to several thousands, comprise some of the earliest and latest inventions and appliances connected with the sciences and the arts, drawn from laboratories, lecture-halls, museums, private collections, and ateliers in Europe, inclusive of course of the British Islands. Inventions and instruments in relation to mineralogy, geology, geography, &c., are here, and in the various sections of mechanics, chemistry, physics, and other branches there are appliances and apparatus of various kinds.

The exhibition will be of great value to inventors, experimentalists, students, and mechanical and scientific workers of all kinds. To a large extent the exhibition will be a practical illustration of the ways and means by which the greatest discoveries and triumphs in science have been obtained, and a kind of index to the names of the inventors, makers, and users of the instruments and appliances on view.

On to-morrow (Tuesday) the conference in connection with the scientific exhibition will commence.

FIRES IN THE CITY.

On Thursday morning a fire broke out in a feather and flock store, No. 2 High-street, which is in close proximity to the New Synod Hall. The Fire Brigade men from the station in the adjoining street were soon on the spot, and extinguished the flames. The property was insured.

On the night of Thursday a fire was discovered in the private house No. 33 Cullenswood-avenue. One of the rooms was occupied by a lady aged about 88 years, who it appears was in the habit of rising at night and lighting a candle. It was found that the bed on which she lay was on fire, and the old lady was very much burnt. She died in hospital the following morning.

THE PROPOSED MUSEUM OF SCIENCE AND ART.

A MEETING of the members of the Royal Dublin Society was held on Thursday last, for the following purposes:—

"To have laid before the meeting any and all such information as may be in the possession of the council, or any of the society's officers, in reference to the resolutions passed at the special meeting of members held on the 2nd of March last. For the purpose of having laid before the meeting all letters and communications that have been received or written on behalf of the society, in reference to Major Donnelly's letter to Dr. Steele, under date 1st April last. For the purpose of taking such action and passing such resolutions with reference to said information and correspondence as the meeting shall deem expedient."

One hundred and seventy-two members of the society were present. The chair was taken by

GEORGE WOODS MAUNSELL, ESQ., D.L.

Mr. George Johnstone Stoney, F.R.S., one of the hon. secs., entered into a lengthened statement as to the desirability of forming a Science and Art Museum in this city, which pressure on our space prevents us printing.

The following resolution, proposed by the Rev. Canon Bagot, was passed unanimously:

"That the council of this society is hereby empowered to treat with the Government for the establishment of a Science and Art Museum on the society's premises, on such terms and conditions as shall hereafter be submitted to, and approved of, by the society at a meeting specially convened for the purpose."

After the reading of correspondence and reports by the assistant secretary the proceedings terminated.

HOME AND FOREIGN NOTES.

INSTITUTION OF CIVIL ENGINEERS (LONDON).—The papers read on the 25th ult. were, "On the Dhu Heartach Lighthouse," by Mr. D. Alan Stevenson; and "On the Changes in the Tidal Portion of the River Mersey, and its Estuary," by Mr. J. N. Shoolbred. On the 2nd inst. the paper was on "Fascine Work at the Outfalls of the Fen Rivers, and Reclamation of the Foreshore," by Mr. W. H. Wheeler. On Tuesday evening last two papers were read; the first on "The Construction of Railway Wagons, with special reference to Economy in Dead Weight," by Mr. W. R. Browne. The second on "Railway Rolling Stock Capacity, in relation to the Dead Weight of Vehicles," by Mr. W. A. Adams.

ARTISANS' DWELLINGS, DUBLIN.—The committee appointed at the conference reported in our last issue, held a meeting on the 1st inst., when the following resolution, proposed by Mr. E. H. Kinahan, and seconded by Mr. R. O. Armstrong, was adopted unanimously:—"That the committee recommend the formation of a company, to be designated the Artisans' Industrial Dwellings Company (Limited), having for its object the procuring of suitable sites for the erection of appropriate dwellings, it being left open to the company to acquire sites by private contract, by availing of the Artisans' Dwellings Act of 1875, or otherwise, as may be expedient; and that the gentlemen named underneath be appointed as a sub-committee to prepare a prospectus, suggest the amount of capital and the shares into which it should be divided, and arrange all matters of detail to be considered before its being submitted to the general meeting." The members of the sub-committee are, Richard Martin, J. F. Lombard, J. W. Murland, S. F. Adair, R. O. Armstrong, W. G. Brookes, E. D. Gray, Major Geary, and the hon. secretaries, who will make their report to the general committee. Judge Fitzgerald, John Ball Greene, J. A. Scott, and J. McDonnell were added to the committee.

JOHN FORSTER'S HOUSE.—Palace-gate House, the residence of the late Mr. John Forster, was on Wednesday last offered for sale at the Auction Mart, Tokenhouse-yard, London. The highest bid made was £17,200, but as a reserve price of nearly £20,000 had been set upon the property it was bought in at £17,300. Mr. Forster had been engaged upon a Life of Swift, of which the first volume was published shortly before his death. It was anticipated that the work, as a whole, would have been a most interesting one, as Mr. Forster had obtained several original letters of Dean Swift, with other documents bearing upon our great countryman's life and works.

PUBLIC OBSTRUCTIONS IN KINGSTOWN.—William O'Hanlon, of Upper George's-street, was summoned at the instance of the Kingstown Township Commissioners for allowing a projection or obstruction in front of his house, in the shape of a window blind. A fruiterer was summoned for maintaining an unsightly wooden screen which projected into the highway in front of his shop in George's-street. Mr. Doyle, C.E., town surveyor, attended to explain the nature of the structure. After a hearing, the case was dismissed without prejudice.

SANITARY CONFERENCE.—The questions for discussion at the Sanitary Conference convened by the British Medical and Social Science Association at the Society of Arts on Friday, were—"The Proper Limits of Boundaries for Sanitary and other Purposes of Local Government;" and, "The Constitution and Powers of Local Authorities."

ARTISANS' DWELLINGS.—At a meeting of the committee on Friday, W. D. La Touche, Esq., in the chair, the prospectus of the proposed company was approved of, and it was resolved to summon a conference, to be held at the Shelbourne Hotel on an early day.

HEALTH OF THE CITY.—Our consulting Sanitary Officers announce that "the rate of infectious disease is *very low*, and that the general death-rate is below the average of ten years." Eighteen houses in Mary's-lane, Fisher's-lane, and Bull-lane have been condemned.

HANDEL'S ORGAN IN ST. MICHAEL'S.—It is proposed to "restore" the old organ of St. Michael's Parish Church, upon which Handel scored his "Messiah." The parish has been proffered hydraulic machinery to supersede the old laborious method of blowing, and an appeal is being made to raise funds to repair the organ. Sufficient money will, doubtless, be forthcoming for such a praiseworthy object.

STRIKES.—Bricklayers demand an increase of 2s. per week to their present wages, viz., 34s. The employers are not likely to yield to them.—The stonemasons contemplate a strike also, and request their fellow-workmen to absent themselves from the city.

NELSON'S PILLAR.—At Friday's meeting of the "City Fathers," Alderman M'Swiny suggested that the Nelson Monument should be taken down and re-erected in one of the squares. It was a great deformity in the street. He believed the cost would be *somewhat under* £2,000. Alderman Gregg said the inhabitants of Sackville-street would gladly contribute towards the cost of removal. Mr. Byrne reminded the house that a special act of Parliament prevented them from disturbing a single stone of any public monument. Mr. E. D. Gray said his attention was called to this matter some years ago. He consulted the trustees, and he gathered from them that they would acquiesce in the removal of the monument. Sir John Barrington looked upon the Pillar as a great ornament to the city.

SALARIES OF CORPORATION OFFICERS.—Mr. E. Dwyer Gray has moved in the Corporation for a very necessary statement. His resolution, which was seconded by Mr. French and adopted, was to the following effect:—"That the Treasurer do prepare forthwith, and print a statement, showing the date of appointment, and the salary at the time of appointment, and the date and amount of every change of salary, of every officer of the Corporation whose salary now exceeds £100 per annum, and that such statement, when printed, be circulated amongst the members of the Council."

FREE LIBRARIES.—A site has been selected and a plan secured for the erection of a free library and museum for Derby. Mr. Bass, M.P., a few years ago gave a donation of £5,000 towards the object, and he has now expressed his intention to increase the gift to £8,000.

THE FIRST PRESIDENT OF THE "IRISH SOCIETY."—The following has reference to Alderman Sir Thomas Bennett, who filled the office of Sheriff in 1613, and was also the first president of the Irish Society in London:—"A Warrant to the Exchequer to pay unto Sir Thomas Bennett, one of the late Contractors with his Majesty for the Farm of Customs Duties upon Wine and Vinegar and Wine Licenses, £30,000 with Interest, without Interest after the rate of £6 per annum until repayment of the Principal, out of such Orders as were already requested in the Exchequer, upon the Monies arising by the Sale of Fee Farm rents, and have been delivered up to His Majesty's use, or transferred to any other branch of the Revenue for the Coffers of His Majesty's Household, or any other person whatsoever, in satisfaction of the £30,000 advanced by him of the sum of £207,400 paid by the said late Contractors into the Exchequer, care being taken that the Tallies for the said £30,000 be cancelled, Directing the Trustees for sale of the said Fee Farm Rents (the said Sir Thomas Bennett being desirous to lay out the said £30,000 in purchase of the rents), to accept of the said Orders at 16 years' purchase as ready money, notwithstanding his Majesty's Letters of Privy Seal of the 19th day of September last. Subscribed by Sir John Nicholas. By Warrant under his Majesty's Sign Manual procured at Supra."

THE LANGUAGE OF THE ARYAN NATIONS.—Mr. C. A. M. Fennell, late Fellow of Jesus College, Cambridge, has nearly finished a full and systematic treatise on the comparative philology of the Aryan nations, with especial reference to Greek, Latin, and English. The work will contain a general introduction and an appendix, composed of essays on various interesting problems of the linguistic science.—*Athenæum*.

Re GRATTAN STATUE.—At a Corporation meeting, the report of No. 1 Committee, recommending that the space round the Grattan Statue be properly flagged and four ornamental lamps supplied, was confirmed.

MUNICIPAL SPIRIT.—The Municipal Council of Rouen have voted a sum of 1,300,000f. for the erection of a building in that town that shall be capable of containing a library and a museum.—*Academy*.

ELY CATHEDRAL.—The plans of Sir Gilbert Scott for the restoration of the exterior of the octagonal lantern of Ely Cathedral have been provisionally approved. The work, it is stated, will involve an outlay of about £3,000.

ST. MARY'S CHURCH, KILKENNY.—Messrs. Reade and Sons, builders, have been declared contractors for the extensive alterations at St. Mary's Church, Kilkenny, under the direction of Mr. Richard Langrishe, Diocesan Architect.

CORK.—The Corporation of Cork has appointed a committee to inquire and report whether the provisions of the Artisans' Dwellings Act shall be put in force in dealing with the courts and alleys of that city.

LONDON.—The *Sanitary Record* says:—Following close upon the official inquiry at Birmingham, another has been held in Whitechapel [London], respecting a much more crowded, but at the same time more limited area, which is situated partly in Whitechapel and partly in the Limehouse district. The area in question comprises $6\frac{1}{2}$ acres, is peopled by 4,350 persons, and occupied by 444 dwellings, besides some buildings which cannot be removed; so that the density of population amounts to as many as 644 per acre. . . . Mr. Liddle stated that the overcrowding was so bad in some of the courts, that there were only $3\frac{1}{2}$ square yards for each of the inhabitants, and that as many as 302 houses were completely unfit for human habitation."

VERY NEW.—It is a bold stroke to invade Regent-street itself with an army of co-operatives. The sacred precincts of Bond-street may next be expected to succumb. At present it is the "Public Supply Association" which leads the van; boldly throwing over the flimsy pretext of benevolence and charity towards people of limited incomes, it offers, in premises stretching from a grand Corinthian front in Regent-street back to Warwick-street, every conceivable article of household requirement to general purchasers. Shareholders are to have free delivery; every one is to be saved the trouble even of writing out his own orders. No one is to be asked to produce his ticket or tell his number, and with a rare spirit of satire, "prompt attention" is promised "as in the best retail establishments." Last but not least, "the public may purchase at the fixed tariff." In fact, the Public Supply Association promises to provide all the benefits of co-operation without the pretence of co-operation. It will represent a totally different principle with a much more satisfactory result—a principle, in fact, which every tradesman can adopt to-morrow, and the man of little capital as easily, or more easily, than he of large capital. The trade secret is a simple one—1st, enough capital to start with; 2nd, very small profits; 3rd, cash payments and no credit. All the world seem to be invited to this extent; but the shareholders are apparently to have, in addition to a shilling annually—that is, 5 per cent. on their one pound paid-up shares—free delivery of all their supplies within the London postal district. We are almost persuaded to take one of the one hundred thousand twenty-shilling shares, and might probably have done so, but for the consideration that these lines are of a far greater commercial value to the company than, let us say, fifty fully paid-up shares would be to ourselves. Lastly, the board of direction consists of a major-general, a lieutenant-colonel, a major, and a doctor; and there are a lion and a unicorn and a pair of regimental colours over the front door.—*Broad Arrow*.

CO-OPERATIVE PROGRESS.

THE following statistics may perhaps have an interest for workmen and others favourable to the system of co-operation:—The statistics laid before the Glasgow Congress show that during the last financial year, 1874, there has been an increase in England and Wales of 20 societies making returns, and 16,891 members; of capital (share and loan), £386,127; sales, £644,635; and profits and dividends to members, £227,720. Non-members in 1874 participated to a greater

extent than in 1873 by £1,828. Scotland has a larger proportional increase than England and Wales, having added to the co-operative ranks during the year 28 societies and 8,060 members, and to the co-operative coffers £38,156 of capital. Sales have increased £97,290, profits to members £7,699, and to non-members £286. In other respects Scotch co-operative undertakings show to advantage when compared with those on the other side of the Border. The excess of assets over liabilities in Scotland is 3s. 0½d., and in England 1s. 11d.; while the proportion of expenses to sales is 6½d. and 7½d. per pound respectively. The total number of co-operative societies in Scotland making returns to the register is 216; making no return, 48—total, 264 societies. The position of these societies in 1874 was as follows:—Members, 69,074; capital, £364,857; sales, £1,990,908; profit, £184,045.

The above figures tell favourably in respect to Scotland, though the system has been of later introduction there than in the sister kingdom. Co-operation is a powerful lever if wisely worked, but it requires a large amount of industry and self-reliance on the part of the united workers. Whether the system will eventually revolutionise the present foundations of this work-a-day world it would be rash to speculate. More than one great co-operative venture has collapsed in England—for instance, the Ouseburn Engine Works in the north, and some co-operative mining ventures in the midlands. Five hundred or 1,000 co-operators ought to be able to save as much as a single capitalist employing 5,000 or 1,000 men. Practically, however, there would appear to be greater difficulty in the way of realising at a moment what a single capitalist, or two or three parties combined, could have readily done. The hive of workers must work in unity, and not be too exacting on the score of dividends or profits. Self-denial and hard industry, as we have already said, are indispensable, and, above all, brains and diligent workmen, the right man in the right place everywhere, and everyone content with his allotted work, and that best fitted to his capacity.

Of Ireland's share in the co-operative world at present we cannot say much.

ST. STEPHEN'S GREEN.

ON Friday last, by a majority of *one*, the Corporation decided on foregoing the yearly rent of £276 received by them out of St. Stephen's-green, and to contribute annually a sum of £600 towards its maintenance as a public park. The following letter, addressed to the Lord Mayor, was read:

"I have to request that you will kindly bring before the council the following information relative to the proposed opening of St. Stephen's-green. Please read to the council the resolutions passed unanimously by the Commissioners of St. Stephen's-green on 28th February and 10th March, which I enclose. Since the passing of the last resolution careful calculations have been made by the Board of Works, and by others competent to form an estimate, of the cost of maintaining the square as a public park and garden, and I am satisfied from these that it can be well and suitably maintained for £1,200 per annum. The Government have consented to place £600 a year on the estimates for this purpose, provided the square is vested in it in fee, and the Corporation of Dublin binds itself to abandon the rent of £276 18s. 6d. now paid by the square, and to contribute annually £600 towards its maintenance. The improvements which I propose to effect in the square will cost about £5,000, and the payment of the debenture debt about £2,000. I must now leave this matter in the hands of the Corporation and citizens, with the sincere hope that this opportunity of obtaining for the city what I believe would be a great boon to all classes, but especially to the poorest, will not be lost. The commissioners and inhabitants of the square have acted most liberally and nobly towards the public, and the Government have rendered prompt aid; and I trust the municipal representatives of the city may see their way to do so also.

ARTHUR E. GUINNESS.

We hope the matter is now finally settled.

PUBLIC OBSTRUCTIONS.

We annex below the final ruling in a case of appeal, *Dolan v. Kavanagh*, heard in the Court of Exchequer on the 8th inst. We look upon it as a very important decision, and we hold the judgment of the Lord Chief Baron and Baron Dowse to be right in point of law, as well as sound on the score of public policy. Repeatedly for years back we have directed attention to increasing public obstructions, and have called upon both the Police and Municipal authorities to put the law in force. "Periodical fits of activity" on the part of the police (to use the words of Baron Dowse) have been rare, and the almost chronic inaction of the Corporate authorities gave rise to the just suspicion that the public obstructions complained of were connived at in view of election purposes. The fact that a railing or an open area once existed in front of a house or of a row of street houses, does not go to prove that when public improvements necessitate the throwing in of the area space to the footways, the shopkeeper has still a right to monopolise the flagging in front of his house as his own exclusive property. There is a double improvement effected by the change, in which the shopkeeper as well as the general public participate. Wherever private houses in our public streets with railed areas in front have been turned into shops, it is always the anxious wish of the shopkeeper to remove the railings, cover over the areas, and thus present a flagged approach to his shop equal to the frontage. He is a consenting party to this, because his goods and wares in his shop windows will be better displayed, and his custom is likely or certain to increase. Were only one house or two at intervals in a private street, where railed areas exist in front, turned into a shop, the space gained in front would not be of much benefit to the general public, as there would be no continuity to the space thus gained for the frontages. It is otherwise, however, of late years in North Earl-street, and is fastly becoming so in Talbot-street. In these streets the area space has been thrown into the public passage-way, both to the benefit of the shopkeepers and the general public; the flagways have become part of the public thoroughfare, and their maintenance is transferred to the local authorities. The "right of way" is therefore established beyond all doubt or cavil, and there are no private rights continued to shopkeepers that would entitle them to the privileges claimed, which in many instances have amounted to intolerable public obstructions. The decision of the Chief Baron will, therefore, be received with public satisfaction.

COURT OF EXCHEQUER.

Dolan v. Kavanagh.—This was an appeal from the decision of one of the divisional justices imposing a fine of £2 on Mr. Joseph Kavanagh, provision dealer, 30 Talbot-street, for having, as alleged, exposed goods—hams, bacon, &c.—outside his premises on the 19th February, 1876. It appeared that the place where the goods were exposed for sale had formerly been an area, enclosed by railings; the railings had been removed and the space added to the footway. It was contended that under the circumstances the space in question was not a portion of the street, but must be considered as part of the house, and not coming within the act.

The Lord Chief Baron delivered the judgment of the Court, holding on the construction of the clause in the Police Act that the place where the goods were exposed was part of the street, and that the conviction must be affirmed.

Mr. Baron Dowse would have satisfied himself with simply expressing his concurrence in the judgment of the Lord Chief Baron, had it not been for the extraordinary argument which had been presented to the court on behalf of the appellant. It appeared that the house in which Mr. Kavanagh now carried on the provision business had formerly been a private house with an area before it—that the railings enclosing the area had been removed, and the space covered with flagging, so that it now formed part of the footway. On this space Mr. Kavanagh exposed hams and bacon for sale. It was, perhaps, questionable whether under the circumstances of the case Mr. Kavanagh ought to have

been summoned at all; but, however, this court had nothing to do with that. The police were affected with periodical fits of activity, and it would seem that in one of those fits they summoned Mr. Kavanagh, and the question now was whether he had legally been convicted of an offence under the statute? He could not, for the life of him, see what other conclusion the court could arrive at, but that the place where these goods were exposed formed part of the public street. Counsel for Mr. Kavanagh had argued that as the space was formerly enclosed by a railing, the court ought to assume it was still part of the house, as if enclosed by an imaginary wall, although no wall was there. Where was the foundation of this imaginary wall? Of what materials was it composed? Why, even *Sung*, the Joiner, when he played the part of "Wall," brought stones and lime with him, but here the court was asked to imagine a wall without materials, to make bricks without straw—in fact, to give to an "airy nothing a local habitation and a name." He could not avoid complimenting Mr. Monroe on his fertile imagination, but he (Baron Dowse) was not of so prosaic a temperament as to imagine a wall where there was none, and certainly if he were even inclined to be poetical, the streets of Dublin was the last subject he could be poetical on. Unfortunately the court must deal with the matter in more prosaic fashion, and notwithstanding that two other courts had, as they were informed, decided against the convictions in similar cases, they had come to the conclusion that they had no option but to affirm the conviction.

The court affirmed the conviction with costs.

THE SOUTH DUBLIN MARKETS.

The select committee appointed by the House of Lords to examine into this bill met on Thursday last. Mr. O'Hara (who appeared for the promoters) said the object of the bill was to incorporate a company for the establishment of a market on the south side of the city of Dublin, to make approaches, and alter existing thoroughfares leading to the site, and to give the necessary powers for regulating and conducting the business of the market, and doing other necessary things relative to it. The entire municipal population of Dublin was 277,000, but including the adjacent townships the population was about 350,000, and there was no proper market accommodation for a very considerable part of that large population. The proposed market would be formed on ground not at present satisfactorily utilised. The bill was promoted by Mr. Maurice Brooks, one of the members for Dublin; Mr. T. Pim, jun.; Mr. T. K. Austin, and Mr. T. Dockrell. The Corporation of Dublin approved of the bill, as was seen by the report of their engineer, made on the 26th January last. The case for the bill had been thus virtually admitted, but he should examine Mr. T. Pim, jun., to prove the case for the bill generally, and then ask the committee to pass the preamble. Mr. T. Pim having given general evidence in favour of the bill, the chairman declared the preamble proved, and he was ordered to report the bill with amendments to the House.

SALES OF MAHOGANY AND WOOD GOODS.

THIS week two sales of wood goods will take place. The first on to-morrow by Mr. Wm. Carvill in the Custom-house Docks. On Thursday Messrs. John Martin and Son, North Wall, will offer a large stock of deals, red and pitch pine, &c., particulars of which will be found in our advertising columns. On the 23rd Messrs. Richard Martin and Co. will offer for sale a large stock of mahogany, also sundry logs of birch and oak. (See their advertisement.)

TO CORRESPONDENTS.

BUILDING TRADE REFORM.—On this subject we have every desire to afford fair play to both sides—workmen and employers—but we cannot allow personalities to be indulged in. Letters dealing with the matters at issue, put in a clear and intelligible manner, shall be willingly inserted. J. B. (Beifast).—The great majority of the Irish settlement in "Bonnie Dundee" are mill or factory hands. There are but few Irish operatives of the building trades in any of the Scotch cities or towns, and those that are belong to second and third generations—the sons or grandsons of Irish immigrants.

W. (Chelsea, London).—Would have been noticed had it come to hand in time.

AN ACTOR.—Will be noticed in due course. Thanks.

ARCHITECT.—The warehouse has scarcely sufficient architectural features to warrant an engraving.

SANITAS.—Send particulars to the secretary of the Dublin Sanitary Association, and it will probably receive attention. "THE HOME OF GENIUS."—This piece is unsuitable, and it is otherwise too much of an imitation.

AMALGAMATE.—We cannot enter into the controversy. Several communications are under consideration, and some are held over for want of space.

J. M. C.—A Citizen—R. A. (London)—An Operative Bricklayer—C. E. (Cork)—C. E. (Kingstown)—P. L. G.—A Surveyor—E. W.—J. N. G., &c., &c.

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It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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The Irish Builder.

VOL. XVIII.—No. 395.

The Preservation of Commons and Open Spaces.



OUR friends across the Channel have been for some years back fully alive to the necessity of maintaining open spaces for health and recreation, whether

they be in the form of public gardens, parks, or immemorial commons or village greens. The interest in the subject has grown from year to year in the sister kingdom, and by the aid of local organisations, local bodies and corporations, assisted by appeals to the law, many pieces of common land around London and throughout England have been saved from the grasp of manor lords and speculative estate agents and builders. In England, within a century it is calculated that not less than 5,000,500 acres of common land have been enclosed, over which the poor in the respective districts in which this land exists once exercised common rights—rights of pasturage for cattle, and, in the case of woods and forests, the right of lopping or cutting down within stated months a certain quantity of timber for fuel.

The subject of the preservation of commons and village greens in Ireland has never received the attention that it ought. We would like to see the question taken up here and thoroughly sifted, for we are certain that it would be found that not only in and around Dublin, but in several other cities and towns in this country large tracts of land have been illegally enclosed, over which the public have, or ought to have, certain rights. In England less than a century ago a large number of persons were beggared by the illegal enclosure of public lands, and for the last eighty years this system has been going on. Very incorrect returns have been made in the sister kingdom of late years of the extent of common land, so many enclosures having taken place. We are told now that the common lands in England only amount to 1,500,000 acres. Some thousands of acres of Epping Forest, in Essex, a great resort of the citizens of London on holidays, have within the last fifty years been filched away by manor lords, enclosed as private property, or sold for building land. By the action of the Corporation of London in the interests of the citizens, Epping Forest is now saved from further spoliation. The struggle was a costly one, but the London public rallied round the Corporation, and the victory was recently won.

Several small but valuable commons around London have been during the last hundred years enclosed, and several more would have been lost to the public were it not for munificent acts of private individuals. A portion of Wimbledon Common was saved

by the public spirit of Sir H. Peek; Plumstead Common was rescued from enclosure through the junior member for Rochester, at the outlay of several thousand pounds; and Berkhamstead was preserved by the public-spirited action of Mr. Augustus Smith. The recent suit of the Corporation of London against the lords of the manors in the matter of Epping Forest cost the city £20,000, and it was money well laid out, for the Forest will be a boon to unborn generations, a vast lung-filter, disinfecting and sending currents of purified air through the heart of a future gigantic metropolis.

The question of the preservation of commons is a most important one, and it has long been ripe for legislation. The Home Secretary has introduced a bill dealing with the complex subject, and it has been for some time before the House. On the motion for going into committee on this bill on last Thursday week, Mr. Fawcett, the junior member for Hackney, moved as an amendment—"That the bill did not give adequate protection to the interests of the rural labourers, and did not provide proper securities against the enclosure of those commons which it was desirable to preserve in their unenclosed condition for the use and enjoyment of the people. He had five cardinal objections against this bill. In the first place, it gave no securities against enclosures being illegally made without the sanction of Parliament; secondly the provisions which the measure contained for the regulation as distinguished from the enclosure of commons were most unsatisfactory, and would prove inoperative; thirdly, the bill contained no adequate security that when an enclosure was sanctioned the interests of the public, and especially of the rural poor, would be cared for; fourthly, the bill left vague and indefinite the discretion of the Enclosure Commissioners, who were a body who had always pursued a policy in favour of enclosing land; and fifthly, the bill was so drawn that upon a subject where the law ought to be intelligible the law would become most confused. The bill was based upon the act of 1845; and although the Home Secretary said the object of the bill was to retard the enclosure of commons, the preamble of the act of 1845 said it was desirable to facilitate their enclosure. The spirit of encroachment was abroad, and there was nothing more difficult to resist."

Although the Home Secretary's bill falls short of what is needed to stop illegal enclosures in the meantime, and provides fully for the rights of the poor, still we acknowledge it is a step in the right direction, and will certainly pave the way to further legislation. The existing Enclosure Act gave great facilities for enclosing common lands, and Mr. Cross's bill, as far as it goes, will put some check to the greed of manor lords, but it will not render it impossible at the same time for them to illegally enclose. The machinery of the Home Secretary's bill required to be more simple in the interest of the poor and their friends, or otherwise there will be great difficulty betimes in putting the law in motion without much time, labour, and cost. It was suggested by Mr. Shaw Lefevre in the debate on the bill, that the Government should confine the bill on the present occasion to a regulating scheme, and postponing all enclosures for a certain number of years, but the Home Secretary would not act on the suggestion. Although the bill falls short

of public expectation, yet it might have been worse, and we are confident now, as a national interest is awakened on the subject of commons preservation, the public will keep watch and ward, and will not allow any flagrant act of enclosure to take place without sounding a healthy alarm.

Here in Ireland the work of our English friends could be usefully supplemented. Have we not many common lands requiring preservation? Have not our people a great interest in the Curragh of Kildare? and has there not from time to time been considerable encroachments on this fine expanse of common land, as elsewhere on other commons in other provinces, where right of pasturage existed for the poor from time immemorial? Confining the question to Dublin alone—city and county—let us ask have there not been within the last century and a-half considerable open spaces and village greens filched from our people?

Oxmantown Green was once a large space; there is no village green or common lands there for the use of the people, within the present century at least. Harold's-Cross Green, at the commencement of the eighteenth century, was a large tract, but the remnant of it that exists at present affords little room even for the recreation of the inhabitants. The land at Donnybrook, in the shape of commons, was monopolised for centuries by one family for the purposes of a fair and other uses, until the celebrated fair was abolished twenty years since. At or near Kilmainham once existed, we believe, another village green, but it has disappeared long years ago; and from Howth, Baldoyle, Malahide, Clontarf, and other places on the north, to Rathmines, Rathfarnham, and Dundrum on the south, several village greens existed for the use of the inhabitants, which no longer exist.

The few spots that are called greens are undeserving of the name, and on some of them no public rights are maintained. Public property has been monopolised by illegal enclosure by private proprietors. St. Stephen's-green was once an open space before it was converted into a square. The green was originally enclosed by a hedge about 1678, outside of which was a ditch. This ditch for long years was certainly not a pleasant spectacle, for it was always full of stagnant water. The commissioners, who were appointed to manage this green in 1815 after the Corporation parted with their right in the interior to the inhabitants for a yearly sum of £300, levelled the inside, planted it with shrubs, filled the ditch, removed the wall, and enclosed it with railings. There is no doubt but the space of St. Stephen's-green, or as it was once called Gallows-green, was originally a village green or open space for the use of the people.

We have for several years back constantly advocated the free opening of this green or square for all classes, and, at last, through public opinion, and the generous act of Sir Arthur Guinness, the public desire is gratified, despite a certain selfish section in the Corporation—a body which should be foremost in throwing it open to the citizens of Dublin.

We hope our countrymen in general in the four provinces, and our citizens in particular, will take courage by what is being done in London and throughout England for the preservation of all common lands, village greens, and other open spaces that still

exist in our midst. It is our bounden duty to do so. For sanitary considerations alone, and in view of the future public health of the country, we are called upon to act. The more public parks and gardens we can maintain, the more healthy and robust will be our people. While fighting the good cause in the interest of cities, let us not forget the interests of the agricultural population, but aid them to the best of our abilities in preserving those immemorial rights of pasturage and other privileges which are so necessary for the well-being of the tillers of the soil.

THE BELFAST WORKING MEN'S EXHIBITION.

THE Belfast Industrial Exhibition, opened by the Lord Lieutenant on the 23rd ult., and inaugurated with much ceremonial details, is highly creditable to the "Northern Athens." Although a local outcome in aid of local objects, yet this Exhibition possesses many general features—the exhibits and exhibitors not being wholly confined to Belfast, several of them representing further south and the sister kingdoms.

The exigencies of a journal renders it impossible for us to afford space for an enumeration of more than a few brief particulars. The local journals of the town have published, on the whole, long and pretty fair accounts of everything of importance in connection with the Exhibition, and doubtless all who have been specially interested have already perused these details.

The Exhibition embraces five departments—Fine Arts, Scientific and Mechanical Appliances, Textile Fabrics, Economic Products, and Illustrations of Natural History and Antiquities.

FINE ARTS.

The first section is enriched by the valuable and extensive collection of Sir Richard Wallace, and contributions from South Kensington and the Tower of London. Objects from the Windsor collection, lent by her Majesty, are also to be seen in this section, supplemented by contributions in oil and water colour, loaned by Viscount Templetown, Lord Waveney, Sir Thomas Bateson, and others. Here also may be seen a number of the works of the students of the Belfast School of Art—a school efficiently worked by Mr. T. M. Lindsay, the head master.

Adjoining the exhibits of the School of Art, Messrs. Ward and Co., of the Royal Ulster Works, exhibit a number of specimens illustrative of the various departments of printing, lithography, illumination, &c., many of them evidencing high artistic merit.

Apart from the Wallace collection, there are a number of paintings and sketches in the Minor Hall, by local artists and others, of considerable merit. Among these are pictures by Mr. J. Howard Burgess, Mr. Samuel M'Cloy, Captain A. G. Whichelo, Mr. H. Smith, Mr. E. Crawford, and Mrs. E. Crawford. In water colours there are local scenes well painted by Mr. Andrew Nichol, R.H.A., Dr. James Moore, H.R.H.A., Mr. F. Stocks, Mr. John Patterson, Mr. J. Vinycombe, Mr. Stannus, Mr. T. Goodman, and others.

Sculpture is represented by Mr. Bruce Joy, with some good terra-cotta statuettes. Some plaster medallions by the same artist which are here exhibited are worthy of notice. A bust in marble by Canova is exhibited by Mr. J. Vinycombe. There are some other

objects which have served the purposes of previous exhibitions, but not the less entitled to admiration.

In the domain of architecture there are many examples, the Minor Hall containing four designs by Mr. W. H. Lynn, R.H.A.—the new Town Hall, Chester; design for the new Parliament Houses and Government Offices, Sydney; new Chateau, St. Louis. Mr. John Lanyon exhibits his design for the new Carlisle Bridge, Dublin; Blarney Castle; warehouses for Messrs. Preston, Smyth and Co. (illustrated in the IRISH BUILDER of June 15, 1875), and several other designs, including a coloured view of Ballylena Castle. Messrs. Young and Mackenzie show a design for warehouses in Victoria-street, and several photographs of executed works. Mr. T. Hevey shows a study for a chancel worthy of notice. Mr. Johnston exhibits drawings which obtained Vere Foster's prize for town schools. Mr. Alexander M'Alister and Mr. W. Batt also exhibit designs executed with skill. The sketches of Mr. Samuel Close are more of the strictly artistic than the architectural character. To the above exhibits in the domain of fine arts and other arts cognate, there are a number of specimens of the photographic art on view by various hands, and etchings from the South Kensington Museum and home sources.

SCIENTIFIC AND MECHANICAL APPLIANCES.

The exhibits in this section include a number of articles of local manufacture, many excellent of their kind, for sundry industrial purposes. Among the exhibitors are Messrs. Combe and Barbour, Messrs. Rowan and Sons, Mr. Horner, Messrs. Stephen and Cotton, and others. Three-fourths of the machines are by Belfast firms. Amongst the exhibits in this section are Jacquard looms, appliances connected with spinning and weaving, and other processes; a nail-making machine, exhibited by Mr. Gregg, of Ann-street; patent emery wheels, manufactured by A. H. Bateman and Co., East Greenwich, London; a hydraulic ram, exhibited by Mr. J. W. Scott, York-street; high-pressure filters, manufactured by Halliday, of Manchester, exhibited by W. H. Postletwaith, Belfast; a moulding machine, by Robinson, Rochdale, exhibited by Messrs. M'Tear, Corporation-street; and a number of machines connected with the staple trades of Belfast, exhibited by local firms.

In this section Mr. J. Lanyon, F.R.I.B.A., exhibits a number of patented appliances of a sanitary character connected with ventilation. They consist of his patent apparatus for the extraction of smells from kitchens, foul air from soil-pipes, water-closets, basins and troughs, slop-basins, sinks, &c. Mr. Lanyon has expended much thought on these invaluable sanitary appliances, in working out the details so that they may be thoroughly efficient; they evidence a practical acquaintance with the minutiae of fittings which seldom receive due attention from architects. Mr. Lanyon's exhibits are designed so as to produce a vacuum in the mouth of the ventilating flues or shafts in which currents of vitiated air, smells from cooking, &c., are withdrawn from the kitchen. The application has been successfully worked out in the Nurses' Home, Frederick-street, where it has proved an entire success. In the Lanyon's patent closet, an extract shaft is led up from the basin as well as from the back of the apparatus. The stand is well worthy of inspection.

Messrs. W. D. Henderson and Sons, of Victoria-street, show a collection of terra-cotta vases and finials. A lithographic steam-printing machine is exhibited by H. Adair, of Belfast, the manufacture of Greaves, of Leeds. Messrs. Harland and Wolff, Queen's Island, exhibit models of marine engines they have manufactured for steam ships. There are many other exhibits of local and English firms in this section worthy of notice, but we cannot enumerate them. Several of the Belfast exhibits are very good.

TEXTILE FABRICS.

The objects in this section are very numerous, and comprise the manufactured product of the flax fibre—yarns, threads, tape, bands, hollandes, dress linens, damasks, handkerchiefs, and several other varieties. To enumerate them would be only to tell of all the Belfast firms and the most of the triumphs that are possible in connection with the staple manufacture of the north of Ireland. The section is all that could be desired.

ECONOMIC PRODUCTS.

The mineral and other natural products of the country are well represented—specimens of iron ore, coal, building materials, native clays, bricks, tiles, and earthenware, &c. Mr. Robinson, of Belfast, exhibits specimens of granite illustrative of its building and more high artistic purposes, in connection with other building or ornamental stones. The Antrim Iron Ore Company, the Dunloy Iron Ore Company, Dr. Ritchie, J. Greer, and Messrs. Postletwaith and Co. show specimens of Antrim iron ore and its application to various purposes in iron and steel construction. Specimens of Belleek pottery, several of them excellent, are exhibited by Mr. E. M'Cormick, of York-street. Here also are specimens of coal from the collieries of Tyrone, Ballycastle, Leitrim, and Kilkenny. Figures, enrichments, columns, and other architectural embellishments are exhibited by Mr. Joseph Holland. A variety of other exhibits of a domestic character are on view, and some of them interesting to ladies. The exhibits are altogether too many for us to find space for their enumeration, even those strictly local.

NATURAL HISTORY AND ANTIQUITIES.

Cognate with the interests advocated by this journal, this section has much in it to attract and inspire study. From the earliest evidence of civilisation in building we have specimens here of rude stone and other implements, illustrations of the forts, dwellings, graves, weapons, and armaments of our ancestors. In the departments of natural history, antiquities, and curiosities there is much to admire and instruct in the Belfast Exhibition. To the first department the Belfast Naturalists' Field Club contributes a good collection—quadrupeds, birds, reptiles, fishes, fossils, &c. Mr. Thomas Darragh exhibits four species of the first series and fifteen species of the bird kind; and Mr. Swanston, one of the secretaries of the club, contributes 150 species of reptiles and marine shells, including sea urchins, star fishes, sponges, zoophytes, &c. There are more groups exhibited or sent in by other members of the club. Outside the club there are several contributions also of like objects. Mr. Taylor sends in a case of birds, some indigenous to the Belfast Lough; Dr. M'Cormac sends a stuffed kangaroo; the Rev. John Bristow, a collection of water fowl; Mrs. Hugh Hamilton, a case of sponges,

coral, and eggs; and Mrs. L'Estrange, bones of the leg of a moa from the bed of a river in New Zealand.

There is on view a well-arranged geological collection illustrative of rock strata and their contents in the neighbourhood of Belfast and other places in the north. Mr. William Gray exhibits an excellent series of stone and bronze implements and other objects of antiquarian interest, and a series of 54 sketches of cromlechs, forts, castles, ecclesiastical, and other buildings. There are other contributions of like objects. The Rev. Dr. MacIlwaine exhibits a series of stone implements, warlike weapons, and cinerary urns; Dr. Moore shows bronze pots, a mether, and an urn; Mr. W. H. Patterson, Mr. G. Langtry, and Mr. J. Knowles send sundry stone implements. Some foreign nations are represented in their antiquities in this department. Mr. James Gilmour exhibits the Dalriada brooch, a good example of early Irish art. The same gentleman also shows a gold torque or necklet. Here on view are a variety of coins of various ages and nations, sent by Mr. Thomas Brennan; and the Rev. Thomas Hamblin Porter, of Tulloghoge, county Tyrone, sends fragments of an Irish cross, and some curious stones, probably sling-stones. Ancient history, in manuscripts, printed books, illuminating, and other forms, is represented in the series of objects contributed by Mr. Robert Young, C.E., which are well worthy of notice. This department is supplemented by a varied collection from the Tower of London, consisting of mediæval armour. The curiosities are numerous, and include odds and ends from all quarters of the globe.

THE BAZAAR AND FANCY WORK.

The objects in this section are very numerous, and comprise most of what goes to the attraction of all bazaars intended for the admiration of ladies. Mr. T. A. Dickson, M.P., Dungannon, presented a case of fancy dresses and ladies' costumes made of linen damask. Messrs. W. Strain and Son presented a collection of fancy ornamental boxes; and a stand of Irish painted china is exhibited by Herbert Cooper, of Molesworth-street, Dublin. The Bazaar, we have little doubt, will prove a profitable section of the Exhibition, and will be found to have answered its purpose.

THE OBJECT AND THE END.

The object of the Belfast Working Men's Industrial Exhibition is principally for the purpose of wiping off a debt of close upon £4,000 which rests on the Working Men's Institute and Temperance Hall. We have little doubt but the end will be attained, leaving a large balance. Independent, however, of financial considerations, the Exhibition is well worked out, and on the whole it must be acknowledged that it bespeaks well of public spirit in Belfast.

EMPLOYERS AND WORKMEN—ENGLAND AND SCOTLAND.

IN London the builders' labourers, with a view to strengthen their position, are about to issue an appeal to the various societies throughout the kingdom, to send representatives to a congress of delegates, to be held next August, for the purpose of discussing and arranging a plan of a National Federation. As there is a National Federation of employers of labour, it is not unlikely the spirit of rivalry will result in a general confederation of trade over England and Scotland. The idea of a trades confederation

is nowise new. It is quite possible; but it may be asked is it needful? not certainly for unfriendly action in relation to "strikes" and "lock-outs." Union is strength, but a union ought to be used for the elevation of workmen, and not for antagonistic purposes.

At Oxford a number of the carpenters have gone out on strike in consequence of the refusal of the masters to concede an advance of 1d. per hour.

At Bristol a strike and lock-out has been existing for some time among the house-painters and decorators. About 700 men were locked out, but nearly half of these have obtained work in other towns. Small bodies of the non-society men have formed co-operative companies, and are obtaining work from private sources. The men on strike demand 1d. more per hour.

At Cardiff a painters' strike took place on the 22nd ult., the masters refusing to concede the workmen's demands.

At Macclesfield the master painters resolved not to advance upon the offer already made of 6½d. per hour.

At Swansea the demand of the masons for 6d. per day has resulted in the formation of a masters' association.

At Mexborough the masons were for several days on strike for an advance of 1d. per hour. Ultimately they agreed to resume work for ½d. per hour advance.

At Leicester the strike of painters, which lasted for five weeks, has terminated. The men came out for an advance from 6½d. to 8d. per hour. The masters offered them 7d., or an advance at the same rate as at Birmingham of ½d. per hour, but this was refused by the men. Subsequently the matter was referred to arbitration, the arbitrator fixing his award at 7½d., or an advance of ½d. per hour, which was agreed to on both sides.

At Hafodywern slate quarry, some five miles from Carnarvon, a serious disturbance took place. An exceptional rule was adopted by the manager by paying the men by the hour, the general custom at other quarries being by the bargain or piece. The men refusing to work upon such terms, a number of Cornishmen and strangers were imported to replace them. Shortly after, a deputation representing 500 waited upon the agent, in the absence of the chief manager; and, while the points at issue were being discussed, the Cornishmen were attacked by a number of the men of the district, driven from their position by missiles, and several of them badly hurt. Some of the officials and heads of the department, including the agent, his son, and the engineer of the quarry, were knocked down and kicked. One of the shareholders was also severely handled. This was striking in Welsh fashion "with a vengeance."

At Bradford the strike of the nightsoil-men was of short duration. From 20 to 30 "throwers out" went out, but their places were soon filled. The new "throwers out" who are in are now working according to the new scale of 1s. 6d. per ash-pit. Little enough is not enough, we should say, for such an unpleasant job if disinfectants are not used.

In several places throughout England and Scotland disputes continue in the mining and colliery districts. The men in some quarters are consenting to a reduction of 10 per cent. in their wages, in other places the masters are endeavouring to exact 12 per cent. and upwards.

The stoppage of extensive works have been announced during the preceding week in England, particularly one large steel works at Landore, in the Swansea district. The works are very extensive, employing about 2,000 men, making steel by Siemens' patent. All contracts terminated on Monday week, and a reduction of about 10 per cent. was sought to be effected, the company having sustained some heavy losses. Some of the operatives are willing to accept it, but the hammer-men and furnace-men refuse, and therefore the whole affair has come to a dead lock.

All the workmen in the Easton collieries, on the Gloucestershire side of Bristol, have consented to a reduction of 10 per cent. in their wages, commencing on Monday, June 10. There will, it is announced, be a corresponding reduction in the price of coal.

At the Oaks colliery, in Barnsley district, a deputation of the workmen waited upon the directors. The directors informed them they could resume work at 12½ per cent. reduction, but this was declined.

At Liverpool a gravedigger was charged with intimidating gravediggers at the Smith-down-road Cemetery. The gravediggers and gardeners had struck because their demand for shorter hours was refused, and violence of the grossest character had been used towards some of those who had been engaged to replace the others. [We may next hear of a strike of midwives or monthly nurses, and then the cycle will be complete from the cradle to the grave.]

At Greenock the strike of the masons is all but ended. At a conference of masters and workmen, the latter agreed to accept the masters' terms, 9d. per hour, the men having demanded 10d. The threat to import and employ German workmen (alluded to in our last issue) is abandoned. The *Glasgow Herald* furnishes some curious circumstances in connection with the Greenock dispute, to the effect that a system of "fines" or black mail has for a long period been exacted by the men from the masters for what the former may consider breach of rules, &c. For example, an employer some time ago took a contract to build a property, in the specification given out for which was omitted the "pointing" of the building, the proprietor of the property wishing to retain this detail in his own hands. The job was finished, and about a year thereafter the proprietor employed a plasterer to "point" the walls. The operative masons thereupon called upon the master mason who took the original contract, and fined him several pounds sterling for taking a job under such circumstances; and the latter, being at the time under contract to proceed with important alterations in a public work during the Fair holidays, had to pay the money or have his men brought out on strike. Another case was that of a builder employed in the erection of a public institution in Gourrock, who had two machine-prepared stone steps sent him from Glasgow, as specimens of what could be supplied for the institution, and he, having unfortunately used them, was heavily fined, on the ground that the stones were machine-hewn. Another master, employed on a large contract in West Burn-street, Greenock, ordered two similar steps to be sent him, when he was fined £30, which was afterwards mitigated to £10, and the latter sum he had to pay. An employer engaged on a large contract in the neighbourhood of Greenock has, we believe, been repeatedly fined—on one occasion to the extent of £100—for doing something in connection with his business which the workmen disapproved of. As to the question of apprentices, the number allowed each Greenock employer is four, no matter whether the master employs hundreds of journeymen or only two.

At Dundee and other places in the north of Scotland the factory hands are faring badly. In consequence of the depression in the linen trade, one of the leading firms in Dundee have given notice to about one hundred of their hands engaged in the wet spinning that should trade not improve, their services will next week be dispensed with. It is also understood that hands are being similarly warned in the Fife branches of the trade. There is a good deal of machinery being stopped in Forfar—one firm alone stopping 100 looms. What affects Dundee in this trade is likely to affect Belfast, but as yet we have not heard there is any depression in the latter town.

THE PUBLIC HEALTH.—The Chief Secretary for Ireland has brought in a bill to consolidate and amend the acts relating to the Public Health in Ireland.

ARCHITECTURAL PRACTICE.*

The subject chosen for my paper this evening is one which we are all more or less acquainted with, and it is one that may be divided and sub-divided into numerous parts, each division forming in itself an interesting essay. But as the time for reading a paper is limited, and as this association, I take it, is formed for the mutual benefit and advancement of the junior members of our profession, my remarks will be confined principally to the earlier stages of our existence, and to those members who attend these meetings with the object of gaining knowledge, and are willing to listen to those who have advanced in the battle. I feel, however, that such a subject, to be treated as it deserves, should be handled by some of the leading members of our profession; indeed I feel very reluctant to appear here to-night, and especially before those whose time-honoured locks tell of their many years' experience.

I purpose dividing and treating the subject under three distinct headings:—

First—The period of our apprenticeship.

Second—The stage during which we pass as assistants.

Third—When in practice.

The first I look upon as the most important part of our professional existence, indeed we are at this stage precisely in the same condition as a building about to be commenced—the raw material, as it were, brought to the spot and roughly prepared to receive the superstructure. So it is with a pupil. He is brought into an office surrounded with gorgeous drawings (all of which, I need scarcely say, are most carefully mounted), and after going through the usual formality of an introduction all round is perched upon a stool, which is carefully clung to until the next comer enters, when he advances a step. This is all very well, and I suppose in the usual course of things there must be some *modus operandi*. But this is the most critical stage of our existence, and is either the foundation of success or the commencement of failure. It is at this stage that I pause for a moment and venture a few observations to those who are about to enter our profession, and more especially to those parents and guardians who have the charge of the intended pupil. I would ask them to consider well the temper, talent, and inclination of those under their care, and if they have the opportunity to consult an independent person who has had experience in the profession as to the probable suitability of the young gentleman. I would ask them especially to cast from their minds the idea that by placing a gentleman in an architect's office for a few years he would be enabled to pass the remainder of his days in comparative ease, and above all during the period of his trial be careful to impress upon his mind the fact that his schoolboy's days have ended, and the importance of close and constant application to his new employment. Indeed I would even go further and ask you, before you bind him to his period of apprenticeship, to consider whether his brain when developed is likely to be sufficiently powerful to grasp an endless variety of subjects. When you have satisfied yourself on all these points his indentures may be prepared.

To the pupil I would say, look calmly before you; try, if you can, to realise the fact that you have many difficulties to overcome, but consider them as difficulties that can and have been surmounted by many that have gone before you. Many have failed, I know; and let me tell you that it requires a stout heart to scorn failure, but remember that poem of Longfellow's, the "Psalm of Life," and don't forget those two lines—"Learn to labour and to wait"—for this is what you will have to do. Do not be alarmed, and pardon me if I quote a list of a few of the numerous subjects you must master during your pupillage. There is drawing, styles and periods of ancient architecture, perspective sketching from nature, modelling;

the names, quality, and general price of the various materials in connection with building, where they are obtained and how they are made (this, I may tell you, is a comprehensive subject); the principles of planning and designing, bearing in mind the general requirements of the subject you are dealing with; and, last but not least, surveying and taking out quantities.

These are a few of the subjects you must know something about; and although I do not expect, and indeed I consider it next to impossible for you to master them all during the term of your apprenticeship, still the closer you apply yourself to the various subjects the better it will be for you in after life. Above all things, humble yourself, rather than pretend to know things you have no knowledge of. Whenever an opportunity presents itself, make the most careful examination and inspection of works and materials during their various stages. I do not wish to burden you with advice, but will conclude by asking you to act with obedience to your superior, and good fellowship to your fellow-pupils.

During the first part of the second stage the profession of architecture to the student becomes either a pleasure or it becomes irksome, and the result depends very much upon the adherence to or departure from those general laws during the term of pupillage. If they have been carefully observed and followed, accompanied by a thirsting desire for knowledge and a general ambitious feeling, then the first result may be expected; but if, on the other hand, instead of attending to their office duties, and carefully watching works during their progress, they consider it essential that their appearance is necessary at all the gay and festive scenes of the day, and that half their time is wasted in putting on clean collars and taking little specks from their garments, the second result will follow; and I am sorry to say that my experience leads me to look upon the latter as the usual result.

Well may the president of this association ask—"Where shall we find men to prepare our perspectives?" I look upon the occasion for such a remark as a disgrace to a body of young men who ought to become the future architects of this country; and I would ask you in all sincerity to remove without unnecessary delay such a stumbling-block to your future success. Some of you will perhaps say—"We would if we could"; or, "We have no taste for drawing, and no artistic feeling within us." If the latter remark indicates the condition of your mind, then I reply—Leave the profession without a moment's delay! But if the former, try and bear with me for a time while I point out a sure road to the attainment of the object you desire.

I conclude that during your term of pupillage you have mastered at least some of the subjects I previously pointed out, and perhaps gained some proficiency in all. The next step is to dismiss from your minds the idea that the ordinary office hours of the day will be sufficient for you to attend to your studies; and I may here remark that you will probably find this step the most difficult of attainment. Then take up any one of the subjects necessary—for instance, perspective and colouring,—and do not be content in learning perspective; do not be content to stop at the first rules, and be able only to draw an ordinary square house, but pursue the subject, and find out your vanishing points and proportioned vanishing points for any form you may be called upon to delineate. In studying colour, I would advise you to study well from nature; don't be afraid to sit down and sketch and colour an old brick wall, or any small object that presents itself to view,—it is in such objects as these that the essence of your work is found. Visit the various exhibitions, and study well works by the several artists. Take notes, and store up knowledge, but, above all, strike out a style of your own, and do not copy any in particular; if you feel a little timid at any special part—figures, for instance,—try and create a feeling.

I might continue this subject to a great length, but, as my time is short, will merely say that, if the other subjects I have pointed out are taken up and pursued in the same spirit, together with other branches of knowledge that will arise during your career, that success will be sure to follow.

In the third portion of my paper I treat of that stage where we enter upon a new sphere of existence—the reality of life, as it were. It is during this period that our past stored-up knowledge comes into play, and where in fact very often additional knowledge which during our pupillage we neglected to learn might be found very serviceable. There are several points under this heading that I wish to call your attention to, and the first of which is, our relative position with reference to other professions. I look upon our profession, and I say it is to our disgrace that we are an unrecognised body, and, as a rule, extremely jealous of each other. A doctor, solicitor, or gentleman in any other profession must regularly study for and take up his diplomas, which is at least a proof that he has attained a certain proficiency: not so with an architect. There are instances, and unfortunately numerous ones, where men idle away their time during their articles, and consider at the end, or very soon after, that they are fully competent to practise; and not only do they consider so, but actually start in practice. I know of other instances where men actually commence practice as architects without ever having studied the first rudiments of building. The consequence is, the public are disgusted with the manner in which their buildings are carried out, and, the innocent suffering for the guilty, architects have established a bad name. Gentlemen, I look upon such a state of things as deplorable in the extreme, and appealing to you, as members of an association established for the advancement of the art, to make every effort that lies in your power to remove this stigma.

Passing on to the second stage under this heading. Gentlemen on commencing practice must still pursue their studies; they must not suppose that having once got into practice they know all that is necessary to learn. There are now many things to consider, and we must bear in mind that we are, as it were, servants of the public. We are called upon to design and carry out buildings for their convenience and comfort; and, in fulfilling their instructions, must first of all study their convenience, at the same time bear in mind the principles of construction and design and the materials we are dealing with; and in cases within the city we should endeavour to arrange our plans in such a manner that the adjoining premises may not suffer, or the probabilities are our clients will. In all such cases as these I would advise most accurate plans to be made of the premises you are dealing with as well as those adjoining. At this time of our life other questions will be found to arise—such, for instance, as the difficulties often experienced with builders and those employed by them. The great secret is to become master of your art, and these difficulties will vanish.

Competitions is another question and difficulty that usually arises with most architects; and the way in which architects are usually treated by the public in such instances is another proof of their standard in the world. I look upon competitions, fairly conducted, as a good source for the display of talent, and it should be the aim of every architect to compete upon any important occasion; but one and all should set their face against any unfair system, and I cannot help thinking there should be some rules laid down upon which to guide the public, and secure architects from any unfair treatment.

This paper is already longer than I intended to write, so that I will now draw it to a close, and, in doing so, will ask architects, when in practice, not to take more pupils than their practice will permit, and to devote some little time in imparting knowledge to them.

* By Mr. F. Morley. Read at the Architectural Association of Ireland, 25th May, 1876.

NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.*

THE new theatre in Aungier-street, the first stone of which was laid on May the 8th, 1733, was finished in ten months, and opened on Saturday, March 19, 1734. Considering the state of building matters in Dublin nearly a century and a-half since, no bad progress was made. On the first night an occasional prologue was spoken by Mr. Griffith, followed by Farquhar's dashing comedy of "The Recruiting Officer." It may not be amiss to give the names of the company in the new theatre on the occasion of the performance of Farquhar's play, and the caste of the characters:—Captain Plume was personated by Mr. Joseph Elrington; Justice Balance, Mr. Layfield; Captain Brazen, Mr. Ralph Elrington; Worthy, Mr. Watson; Kite, Mr. Vanderbank; Bullock, Mr. Frank Elrington; 1st Recruit, Mr. Reed; 2nd Recruit, Mr. Butler. The lady characters were—Sylvia, by Mrs. Bellamy; Melinda, Mrs. Wrightson; Rose, Mrs. Moreau; and Lucy, Mrs. Reynolds. The Elrington family were the best actors of this company. Mr. Griffith and Mr. Layfield have already been noticed. Mr. Vanderbank was an old actor of some reputation at the time in Dublin, and Mrs. Bellamy was the mother of the afterwards celebrated actress of the same name. The elder Bellamy is reported as an actress of excellent figure, but not possessing any great abilities. The Duke of Dorset, as Viceroy, attended the opening of the new theatre, and the audience was a crowded and fashionable one, and the performance was well received.

Although we have already spoken of the early career of poor Farquhar and his sad end, at this point it will not be out of place to give the criticism of Leigh Hunt on "The Recruiting Officer" as a comedy:—"In 'The Recruiting Officer' Farquhar threw himself entirely upon his animal spirits, and produced accordingly one of his best plays. In everything connected with it he was fortunate, for he went only upon grounds of truth and observation and his own impulses. The humours were drawn from what he had seen while on a recruiting party; his hospital friends 'round the Wrekin,' to whom it was dedicated, furnished some of the characters; the play was written on the spot; his colonel and general liked it (Lord Orrery and the Duke of Ormond); the principal *dramatis personæ* were represented by the best reigning performers (Wilkes, Cibber, Estcourt, and Mr. Oldfield), and it gained that kind of success from which the author might have foreseen that it would retain possession of the stage. The names of the several persons represented under fictitious names in this play have been given by Nichols, on the authority of an old lady who remembered Farquhar and his recruiting party. Plume was, of course, pronounced to be himself, but if the play, as it is asserted, and is probable, was written within a year of the 'Beaux Stratagem,' the gay captain could only be the imaginary Farquhar, gay enough we doubt not while so imaginary, but in his own person an anxious married man. Steele, who had a grudge against Farquhar because he thought him wanting in sentiment, attributed the support of the play to the admirable performance of Estcourt. 'There is not,' he says, 'in my humble opinion, the humour hit in Sergeant Kite; but it is admirably supplied by his action.' Succeeding times have not accorded with this action. Every character in the piece of any prominence is thought to be a genuine transcript from nature, and there is a charm of gaiety and good nature throughout it that enables us to put the best and least tragical construction upon certain anti-sentimentalities, which Steele perhaps was too much out of his customary good humour to choose to consider in any light but one. We seem to breathe the clear, fresh, ruddy-making air of a remote country town, neighboured by hospitable elegancies. The sturdy male peasants will find their legs in life somehow as the Sergeant has done, and the

females will be taken more care of by the Captain himself, and by the good-natured Sylvia too, than the censor at first sight might suppose. The morals are not the best, we allow; and especially in the matter of lying, which always gives us a pang, they may be infinitely improved, as we doubt not they will, though not from the austere quarters. When the best morals arrive, everybody will be as happily taken care of as the ladies themselves—not the case certainly at present, nor provided for by the prospective ethics of dear excellent Richard Steele."

So far for the estimate of "The Recruiting Officer" as a comedy, and of the abilities of our Irish Farquhar. Reverting to the subject of the opening of the new theatre in Aungier-street, and the motives that led to its erection. Of late years in England the idea of a National Theatre has been discussed—a theatre kept alive and supported not on purely commercial grounds, but for the noble object of supporting the legitimate drama, purifying the stage, elevating the theatrical profession, and exorcising all that tends to degrade what should be a dignified calling. We have been told publicly of late that Shakespeare "spelled ruin," and that managers are perforce obliged to minister to the public prevailing taste, although it is a vitiated one. Theatrical managers, it must be allowed, have a hard card to play in these times, when sensation-mongering is in the ascendant. They mostly go with the crowd, and, like Goldsmith's comedy, they "Stoop to Conquer."

Whether a National Theatre, established and supported by a body of noblemen and gentlemen in the character of directors, would be a paying transaction, we are not prepared to say; but pre-supposing that there were men among them of undoubted dramatic taste, coupled with business knowledge, we see no reason why a theatre governed by a board of directors would not succeed as well as any other public board. Unanimity might not be expected on the part of the whole in matters of public taste; but unity, on the other hand, is not always present at the deliberations of a railway or other council. In starting a National Theatre conducted by a board of directors, a large capital would be required, and the directors should be prepared, for the sake of elevating the drama, to contribute handsomely.

It will sound strange to many in these times to hear that the idea of establishing a national stage on the lines above discussed was entertained in Dublin a century and a-half since, and the building of Aungier-street Theatre was for the distinct purpose of carrying out the object. We will here quote Hitchcock's remarks upon the subject:—"There certainly never was a more noble or disinterested design than that first formed of building or conducting this theatre. Its principles were the most liberal and extensive that can be conceived. The plan first laid down by the subscribers would, if properly carried into execution, in a short time have produced the grandest theatrical constitution in the world, even superior to the boasted Athenian drama. The proprietors were noblemen and gentlemen of the first rank and consequences in the nation, who, actuated by the noblest motives, agreed to superintend the concerns of the stage, endeavoured to advance its interests, and fix it on the most permanent and flourishing basis, without the least idea of emolument in return. A committee was chosen from amongst them, a chairman appointed, and every Saturday they met to appoint plays, distribute parts, and settle the great variety of business which unavoidably arises from so great an undertaking. All the profits and emoluments accruing from the performances, instead of going into the purses of private persons, were solely to be dedicated to the public service. As the scheme extended, the best performers who could be procured were to be engaged, pieces of undoubted merit were to be revived and brought forward, the wardrobe and scenery to be enlarged, and

every decoration which the hand of taste could point out to be adopted. Such were the outlines of a design which promised as splendid dramatic entertainments as Greece or Rome ever exhibited. How worthy of imitation!"

Yes, we will repeat with Hitchcock—How worthy of imitation! The fair and flattering prospect, to use his own words, was never realised, nor is he able to account for its collapse, though the dramatic critic of the present day could assign more than one good reason. One reason given in Dublin, and mentioned by Hitchcock, was that the former managers of Smock-alley Theatre were continued by the proprietors in the new theatre, and that they conducted business so injudiciously that they could not lay any claim to encouragement or success. Very large sums of money were found to be expended on a theatre ill constructed. The architect, whoever he was, appeared to have little experience in the construction of theatres, and he failed in the essential points of accommodating for hearing or seeing. We are told that in Aungier-street it required uncommon powers of voice to fill every part of the house, for on crowded nights a great portion of the audience could neither hear nor see. Were poor Tom Elrington alive and in vigour, it is possible that his stentorian voice, which was whilom heard "all over the Blind-quay," when acting on the boards of Smock-alley, would in Aungier-street have failed to reach the ears of his many admirers.

The company in Aungier-street Theatre on its first opening was not equal to that previously witnessed in Smock-alley; and after awhile the novelty of the theatre, which was built and opened with such a flourish of trumpets, wore off, and the audiences grew gradually less and less. It appears also that a great mistake was committed in appointing a Mr. Swan to superintend the management, who, although he was a gentleman of character and fortune, knew scarcely anything about theatrical management. As an actor, he might have succeeded, had he continued on the stage, as he was attached to the drama. We read in Hitchcock that he played once for Mr. Worsdale's benefit the part of Tamerlane with applause, and that he repeated it, and subsequently performed Othello and other characters with some success. The following anecdote is related of this director of the Irish Stage:—"A person of distinction once asked an actor his opinion of Mr. Swan's performance, who replied—'He played very well as a gentleman.' 'I should be glad,' replied the other, 'to see you play like him, then.'" Mr. Swan, some years after his retirement from the stage, continued to reside at York, and doubtless carried into private life strange memories of his sojourn in Dublin.

Between 1733 and 1736 fierce rivalries existed between the several theatres in Dublin, no less than five houses contending for the patronage of the public, while one capacious and properly-conducted theatre at the time would have been amply sufficient for all the public wants. The companies of Rainsford-street and Aungier-street fought tooth and nail for mastery, and with varying success. The latter theatre indeed possessed advantages over the former, but the management needed all the tact that it could muster to hold its own for a time.

After a short period Rainsford-street theatre, from its position, began to decline, and the contest was soon to be between Aungier-street and Smock-alley. The managers of the former made a bold bid for success in producing "Henry the Eighth with the Coronation." A large outlay was made, and with much pomp and parade the piece was ushered. Poor Rainsford-street, unable to vie with the splendour of its competitors, very cleverly took to burlesque. The "Royal Merchant, or the Beggar's Bush" was produced with expedition, and a mock coronation of King Clause was introduced, we read, with great effect. Every minutiae of the Aungier-street play was burlesqued—mock procession, &c.—and the tide was at once turned. The

* See ante.

crowded houses that assembled to witness King Harry at Aungier-street now flocked to see King Clause. Rainsford-street breathed freely again, replenished its exchequer, but the illusion was short-lived. Bad times came again for the two theatres, the worst overtaking Rainsford-street.

As we before said, the contest was about to lie between Aungier-street and Smock-alley, for the old proprietors of the latter theatre were in the meantime resolving to once more try their fortune and strength with the new theatre. Gathering to their side whatever strength they could muster by additional subscribers, the old building in Smock-alley was pulled down, and on May 19th, 1735, the first stone of the last theatre that existed on the site was laid with some pomp and ceremony. This new and sudden movement alarmed the managers of Aungier-street, and, after a rather bad run, they engaged Delane and Giffard for their later season. After playing for a few nights, these actors went with the company to Carlow races, on their way to Cork.

The new rivals of Aungier-street did not lose a day in hastening the erection of their theatre. In seven months the new Smock-alley Theatre was built and opened. We read that, notwithstanding the expedition used, the architect studiously avoided the errors of former buildings; and Hitchcock, who was for many years connected with the Dublin theatres, and who may be supposed to know something practical as to proper requisites of a theatre, says it was "a strong, elegant, commodious, well-constructed theatre. The cavea or audience part is remarkably well constructed for the two first requisites, of seeing and hearing. In these essentials it gives place to none that I ever saw, and I think I may safely say is superior to most." We do not learn who was the architect of the last-existing Smock-alley Theatre. It has disappeared since our grandfather's days, and so has the Crow-street Theatre Royal that succeeded it.

Of the rivalries that existed between the two new theatres—Aungier-street and the re-erected Smock-alley,—and of some of the characters that figured in them, we will tell further on.

LECTURES ON ARCHITECTURE.*

(Continued from page 144.)

LEAVING now the temples of Pompeii, we find that the largest building in the Forum is the Basilica. This is in accordance with Roman practice, for with them the temples were usually small, and the basilicas large and magnificent. The latter were used for matters of law, commerce, and politics, and it has been suggested that the Roman people cared a great deal for these things, and not very much for religion, a distinction typified in the differing principles of design applied to these two classes of their public edifices. To us, basilican architecture possesses a peculiar interest; for the basilicas having been the first buildings appropriated to Christian worship, they may have affected more or less the arrangement of Christian churches throughout the world and up to the present time. The basilica at Pompeii must have been both important and handsome. There are twenty-eight columns in the interior, about 3 ft. 7 in. in diameter, and 34 ft. in height. These supported the roof, and at the sides were windows for the admission of light. The roof was of wood, of simple construction, terminating in a pediment at each end.

In the chief basilicas with which we are acquainted, there was at one end a semicircular apse, nearly corresponding in width with the central space or nave. This, which subsequently became the Christian chancel, was the place reserved for the magistrate. It was raised above the general level of the floor, and from his elevated position he could preside with dignity and order. He was sur-

rounded by his officials, and in front of his seat an altar was placed, so that all the solemnities of sacrifice could be invoked whenever desired.

This arrangement was common to the basilica class, and was carried out with more or less magnificence, according to circumstances. The splendid ruin known as the Temple of Peace at Rome is perhaps the grandest example of these buildings, and the basilica at Pompeii is a good specimen of those of a more unpretending character. In the latter we do not find the usual semicircular apse, but in its place there is a rectangular recess, or tribune, which served the same purpose. The tribune was raised, and had beneath it a vault or cellar, which may have served as a treasury or book-room, or have been used for the temporary custody of prisoners. Stairs at the sides of the tribune gave access to galleries.

There can be no doubt that the Romans attached great importance to the due administration of justice. This is an attribute of an imperial race, which, conscious of its strength, does not fear to be just. It was not the manner of the Romans, we read in our New Testament, to deliver any man to death until he had met his accusers face to face. Here, at Pompeii, the basilica was evidently the most important building, if we except the amphitheatre, and we can form a notion of its imposing character if we picture to ourselves the presiding judge surrounded by his assessors, officers, apparitors, and lictors, elevated above the people, and swearing upon the altar before him to deliver judgment without fear or favour, and do justice between man and man.

Close to the basilica, and occupying the end of the Forum, opposite to the Temple of Jupiter, are three buildings, the destination of which cannot be decided with certainty. They may have been connected with the government offices, and have served for a treasury, or other similar purpose, or they may more probably have been the Curie, or law courts—a conclusion favoured by their propinquity to the basilica.

On the south side of the latter we find a second temple, smaller than the Temple of Jupiter, and supposed to have been dedicated to Venus. It is surrounded by a spacious enclosure, entered not only from the Forum, but from the street. Inhabitants of Pompeii could therefore obtain admission by the latter when the Forum was closed by the iron gates at the ends of the approaches.

The statues and pictures here found indicate corruption of taste and morals, and belong to the time when the Romans sought in the mysterious and degrading superstitions of Egypt stimulants which were only too readily assimilated by them in the debasing rites of Isis, Bacchus, and Ceres.

The temple itself is small, and the cella served as a shrine for the statue of the goddess, whose pedestal was found within it. No columns or surrounding porticoes have been discovered, and it seems probable that the temple was undergoing restoration. It stands, according to the usual Roman manner, on an elevated basement, raised by sixteen steps above the pavement of the enclosure. This basement is so much larger than the cella requires, and the latter appears so bald and unornamented, that I have no doubt there must have been surrounding colonnades, after the Grecian custom, and I have therefore restored the same on half of the plan before you.

The columns may have been temporarily removed, in order to effect changes in their material or design, and this suggestion is the more probable, because we know that the columns of the porticoes around the enclosures had actually been so modified. At the time of which we are treating, the old worship of the gods was neglected for the more exciting rites I have already mentioned, and we may suppose that while the Temple of Jupiter represented the older and more respectable régime of Church and State, the youth and fashion of the day found for themselves a more congenial worship in those temples,

which, like that of Venus, lent itself more readily to the newer tastes of the day.

If this were so, we should expect to see fashion, with her usual restlessness, anxious to change the older forms of the architecture, and to aim at that ever-sought desideratum of false taste, to make all things new.

We accordingly find that the alterations in course of execution were, architecturally, of an objectionable description. The columns around the enclosure were originally of stone; they were being repaired, and altered with plaster. Their design was Doric, of a Greek type, less than six diameters high. This proportion is quite unsuited for a Corinthian order, which requires nine or ten diameters for its right effect. Nevertheless, the Pompeians were engaged in converting these sturdy Doric columns into a dwarfed and corrupted Corinthian. They plastered over the Doric capital with acanthus-leaves and volutes, and continued the latter downwards, at the expense of the shaft of the column, which thus was stunted and disfigured. Variety was sought both in design and colour; but it was variety uncontrolled by taste. The columns were painted yellow and white.

Such as it was, the Temple of Venus was probably the fashionable temple of Pompeii, and may be understood to represent the prevailing taste of the people at the time of the destruction of their city. The Temple of Isis was in the neighbourhood of the theatres, and there is only one other temple in the Forum. This is opposite to the Temple of Venus, and consists of an open enclosure, with a small niche for a cella, just large enough to contain a statue. It is supposed that this edifice was the Temple of Mercury. Adjoining it is a spacious building, which may have been used for meetings; it is about 80 ft. square. It is often called the Senaculum, and was furnished with an altar. It had a fine portico of eight columns of white marble. Another building, which goes by the name of the Edifice of Eumachia, may probably have served as a second basilica or exchange.

The street near to the buildings above described leads to the theater quarter, and to this we may now turn our attention. We have seen that Pompeii may be regarded to a great extent as a Grecian city, and this characteristic comes out the more strongly when we proceed to examine the remains of her theatres. The Romans attached less importance to these structures than was the case with the Greeks, amongst whom the stage had a semi-sacred character. To the Romans, the terrible sports of the amphitheatre were a greater attraction, and here they would assemble in their thousands to see men fight to the death, or be torn to pieces before their eyes by ferocious wild beasts. Nor was this dreadful taste confined to the lower orders or to the sterner sex, for each order of society had its appointed seats disposed in zones, and here might be seen patrician and plebeian, stern warrior and fair lady, so that a crowded amphitheatre was a complete epitome of Roman society. We shall presently find that Pompeii possessed an amphitheatre of much grandeur, situated apart from the theatres which we are now considering.

The large theatre was of the ordinary semicircular plan, and was uncovered, except as regarded a few branches in the uppermost tier or gallery. The seats originally open to all, had been gradually appropriated, and at the time now referred to were allotted by law to various sections of society. At Pompeii, three great divisions are traceable in the great theatre, besides that for the orchestra. The lowest was the place of honour, and the seats in it were arranged with ampler space accorded to them than in the upper tiers. Here were the magistrates, priests, and other important personages, each, it is supposed, in his separate chair, displaying, probably, the insignia of his office.

The middle tier was for those of lesser degree; the seats in it were probably undistinguished, and they are believed to have

* Second lecture. By Professor E. M. Barry. Delivered at the Royal Academy, London, on 2nd of March. See ante.

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been furnished with cushions. The people, in its wider sense, occupied the upper and outer zone on stone benches or steps.

The only part that was permanently covered was a small part of the highest gallery, which was sheltered by a roof projected slightly from the outside wall. The whole of the interior was doubtless temporarily covered during the performances with an awning, or velarium extending over the whole area. Attached to the theatre was a large square, with surrounding arcades, to which the audience could retire for change and refreshment, or for refuge in case of bad weather. The stage was of wood, and was consequently destroyed, though its position and form can be distinctly traced. It had a space below it for machinery or other contrivances. It was probably covered over, for at Herculaneum, where there is also a theatre, remains of woodwork were found embedded in the lava, which, from their position, must have formed part of a roof, and probably also machinery for producing scenic effects. The stage, or proscenium, was architecturally treated with columns, niches, and other ornaments, for the device of changing scenery was not known to antiquity. Those of you who may have seen Palladio's restoration of a Roman theatre at Vincenza will be in a position to apprehend clearly this part of the subject. The proscenium at Pompeii is too far ruined to allow its original design to be very clearly seen, and I have therefore placed before you a drawing of the proscenium in the theatre of Herculaneum, which is better preserved, and will enable you to understand the usual nature of such structures. Behind the stage was the post-scenium, or, as we might term it, the green-room, to which the actors retired, often, we may presume, not without trepidation; for the Romans, cruel in their sports, had little pity for want of success, and actors who had failed to please were sometimes publicly whipped in the open square near to the theatres. The musicians were placed in the front of the stage, and there seems to have been some contrivance for raising a screen when required to conceal the stage, and to serve the purpose of the modern curtain, or drop-scene. Separate entrances gave access to the different orders of seats.

The Pompeians had followed the Greek custom of open theatres; but it may be supposed that these were not always convenient in winter, even in southern Italy, and they therefore provided themselves with a smaller theatre, which was roofed in. We know that this was the case, from an inscription having been found in it to the effect that Marcus Portius, by a decree of the decemviri, superintended the erection of a covered theatre. It is much smaller than the great theatre, being about 90 ft. square, but it was similarly arranged, though with somewhat greater scenic facilities, as far as the stage was concerned. It had also its privileged seats and its separate entrances, and had a ready communication with the great square.

This square commonly goes by the name of the Soldiers' Quarters, and in the rooms around it were found skeletons of prisoners confined by fetters, which had caused the poor wretches to await their doom, while the gaolers saved themselves by flight. The architecture of this square is of a rough description, the columns being of coarse stone, covered with stucco, and coloured blue, red, and yellow.

At the upper end of the theatre is the Temple of Isis, before adverted to. In it a beautiful statue of the goddess was found. It is of marble, finely carved, and about 2 ft. high. It is now, with innumerable other objects found at Pompeii, in the museum at Naples. The drapery was coloured (it is believed, a tender purple), and portions were enriched by gilding. The statue holds the well-known Egyptian symbol of the key of the Nile. Many other works of art were discovered in this little temple, and among them figures of Harpocrates, Bacchus, Venus, and Priapus. The walls were painted

and otherwise ornamented, and the exterior was evidently a favourite with the Pompeian people. The temple itself was raised on a podium like the others in the Forum. It had a portico of six columns, and behind the cella was a passage, supposed to have been used by the priests for some of the tricks of superstition with which they have been credited.

Translated from Egypt they were evidently thought likely to corrupt faith and morals; for in the year 57 B.C. they were forbidden by the Roman Senate. Nevertheless, we find them at Pompeii, and it would appear that they were winked at by the local authorities, whose independence of the central power was very considerable. The worship of Isis was probably the most superstitious of its day, and superstition must ever have its votaries. It is, moreover, thought to have afforded a cloak for license and debauchery, and in the secret stairs leading to the backs of the niches ready means existed for enabling the priests to personate the goddess, and deliver such oracles as they thought most conducive to their own interests.

In one corner of the enclosure there was a sacred well, with an altar before the door. The well was covered by a small building, decorated with bas reliefs, indicating the sacred character of the water within. Holy wells have never wanted worshippers; they have been common in all ages, and have not yet lost their reputation, as may be seen in the south of France in the present day.

There are various other altars or pedestals for statues within the enclosure of the Temple of Isis, and in it was found the well-known tables of hieroglyphics now in the museum at Naples. The rooms near to the well probably belonged to the keeper of the temple, who was also a priest. Prayers were said twice a day, and fire and water were used at the solemn rites. The temple was closed at night.

Near to it are the ruins of another building, supposed to be a Temple of Æsculapius. From its out-of-the-way position it was probably not much frequented. Possibly the Romans thought more of the art of killing than that of healing. The cella contains a pedestal. It had a portico in front of it, approached by a broad flight of steps. On the altar in front were found terra cotta statues of Æsculapius, Hygeia, and Priapus.

On the other side of the Temple of Isis, and near to the entrance to the theatres from the street leading from the Forum, were the schools. Here it was that the philosophers taught, and that each opposing system commended itself to its disciples. We know how important an influence this was in Greece, whose fierce democracies were wielded at will by the heaven-taught orator. In Roman society, the power of the schools was less, for they came in contact with a strong government, which ruled with imperial sway and an iron power of centralisation. Nevertheless, the schools of Pompeii doubtless played an important part in the life of the day. The orators first used the porticos of temples for their rostra, and addressed their disciples standing around. This being found inconvenient, special buildings were in process of time set apart for schools, and to them children and young people of the highest rank, as well as others, resorted for instruction. They were usually near to the Forum, but at Pompeii this was already appropriated. Placed close to the theatres, the latter was readily available for illustration or declamation, and the open spaces around were convenient for the crowds of disciples who resorted hither to hang upon the words of their favourite teachers.

In the courtyard of the schools was the pulpitum, or raised rostrum, from which the instructor addressed his pupils, just as did the mediæval preachers from the open-air stone pulpits, of which we find many traces in our own country.

Time warns me to conclude, and I will only refer for a very few moments to the great amphitheatre. This is at the extremity

of the city, and is of large size. It is oval in form, and contains twenty-four rows of seats, which might have contained some 10,000 people. There is nothing to call for special notice in its design, which is similar in character to the examples at Verona and Rome. It was to this amphitheatre that Pompeii poured out its thousands on the very eve of the destruction of their homes. The shows were a matter of state concern, and the authorities were severely blamed if they failed to provide the much-prized and sanguinary amusements expected of them. Hundreds have been butchered in these bloody Roman amphitheatres before the eyes of those who, no doubt, passed for the refined, the delicate, the cultured classes of society.

We may imagine the consternation which spread among the vast multitude, savagely intent on its own amusement of watching the death agony of others, when first roused to an idea of their own peril. Hidden from them for a time by the velarium, the eruption of the burning mountain was not visible at first. A terrible darkness presently set in, to be followed only too soon by streams of fire and showers of burning cinders, amidst which the affrighted populace sought their homes, if happily they might find them standing.

(To be continued.)

HANDICRAFT AND HANDICRAFT TOOLS.

(Continued from page 147.)

TOOLS USED IN HANDICRAFT.—SAWS.

We have considered the hammer, which in itself is a tool for consolidating material; we passed on to the axe, which, although unusually regarded as an "edge" tool, is generally a hammer with a "wedge" pane; this is used for dividing fibrous material in the line of the fibres. From this tool we passed to a true edge tool, which in its most elementary form is the "chisel," and by various added contrivances the chisel becomes the shears and the plane. Saws, which are to engage our attention this evening, differ from all the foregoing. They can scarcely be called derivatives from these, unless the "knife" be regarded as the connecting link; for sometimes it is used as a chisel and at other times as a saw. All these tools, not excepting even the knife, are employed upon work in the direction of the grain or fibre of the material operated upon. The saw is essentially a tool for use across or at right angles to this fibre, although custom and convenience have arranged the saw for use with the fibre. Even then it is only because the fibres are not straight and parallel. When they are so, as in lath wood, then the saw is not employed. It is true that in such work as the felling of timber the axe is used across the grain, and therefore at right angles to the length of the fibre; yet if the action of the forester be observed, it will be seen that the direction of his blow is not that of the line of separation. He goes at his work *indirectly* when using the axe; *directly* when using the saw. In the former case he deals with the tree as an artist does in sharpening a lead pencil.

To cross cut fibrous wood direct with an axe will be found not only a difficult task, but very damaging both to the axe and to the wood. It seems to arise thus:—A bundle of many thousand fibres have to be separated—a heavy blow with a sharp edge is dealt at right angles to the group; those first struck yield, but are resisted in that continual yielding which would produce separation in consequence of the transmission of the energy of the blow to other fibres. When this energy is expended, and the fibres are bent like so many archery bows, the axe again descends, bending more and more until some yield, torn asunder by excessive bending. Such tearing is truly separation, but accompanied with much detriment to the crushed fibres. Where a group of straight fibres is struck with a cutting edge in the

direction of their length, the only resistance to separation is that due to the longitudinal adhesion of fibre to fibre; in fact, it is not a separation of the actual material that takes place, but a tearing asunder of fibre from fibre. When, however, a group of fibres is struck at right angles to their length, then it is no longer the adhesion of fibre to fibre that is being dealt with, but the actual cohesion of each fibre within itself. If in the growth of timber there was no discontinuity in the straight lines of the fibres, then all longitudinal separation would be accomplished by axes or chisels. It is because this rectilinear continuity is interrupted by branches and other incidents of growth that the saw is used for ripping purposes. Were not some tool substituted for the wedge-like action of the axe, timber could not as a general rule be obtained from the log with flat surfaces. Hence the ripping saw, a tool which is intermediate between an axe and a saw proper. To study the saw as a tool fulfilling its own proper and undisturbed duties, it must be regarded in the character of a cross-cut saw. In this character it is called upon to meet the two opposing elements—cohesion and elasticity of fibre.

To deal with the treatment of fibrous wood at right angles to the length of the fibre is then clearly an operation in which considerations must enter, differing in many respects from those that decide action in direction of the grain. The object now is as it were to divide with the least expenditure of power a string which connects two ends of a tensioned bow. If a blow be given in the middle of a bow-string, the elasticity imparted by the bow to the string renders the blow inoperative. The amount of this elasticity is very apparent when one notes the distance it can project an arrow. Indeed, any one who has struck a tensioned cord or a string is well aware that the recoil throws back the instrument, and by so much abstracts from the intensity of the blow. To separate the string in this experiment even the pressure of a blunt knife blade is insufficient; for a heavy pressure, as manifested by the bending of the string, is borne before separation takes place. It may be taken for granted that in thus severing [the string, the power expended has been employed in two ways; first, in bending the string; second, in separating it. If the string be supported and prevented from bending, and the same cutting edge be applied, and the power be measured by weights or a spring balance, it will be seen how much of the former was expended in the useless act of bending the string, and therefore quite lost in the separating of it.

If the cutting instrument were a short narrow edge, or almost a sharpened point, and drawn forward, each fibre would be partially cut. A repetition of this action in the same line would still further deepen the cut. But a cutting edge requires support from a back, i.e., from the thickness of the metal, otherwise it would yield. Further, a cutting edge held at right angles to the surface of the fibres may not be the most effective position. Let any one draw the point of a knife across the grain of a smooth pine plank, holding the blade first at right angles to the surface, and, secondly, inclining forward, he will observe that by the first operation the fibres are roughly scratched; by the second they are smoothly divided.

Hence, even where the edge has deepened, this back support, or metal strengthening must follow. It cannot do so upon this knife contrivance, because the sharp edge has not prepared a broad way for the thick back, which, being of a wedge-like character, should be acted upon by impact and not by such tension or thrust as in this case is only available. Therefore simple cutting is insufficient for the purpose of separating the fibres, but it has been suggestive.

If now something must enter the cut thicker than the edge, then it is clear that the edge alone is insufficient for the required purpose, and an edge, as a cutting edge alone, cannot be used for the separation of

the fibres cross-wise. Longitudinally it may be, and is used, but in reality what appears to be thus used is a wedge, and not a cutting edge, for in a true cut the draw principle must enter. The axe and chisel do not work upon the cutting "edge," but upon the driven "wedge" principle. They are driven by impact, and not drawn by tension or thrust by pressure.

The consideration now suggested is not simply how to cross-cut the fibres, but, further, how to permit the material on which the edge is formed to follow without involving an inadmissible wedge action. It may be done as in a class of saws called metal saws; it is done, viz., making the "edge" the thickest part of the metal of the saw. This, however, ignores the true principle of the saw, and introduces the file. Were we now to consider this file-like action, we should be drawn too far aside from the present question. It may, however, in passing, be well to remark that in marble cutting, where the apparent saw is only a blade of metal without teeth, this want of metal teeth is supplied by sharp sand, each grain of which becomes in turn a tooth, all acting in the manner of a file, and not a saw proper. A former method of cutting diamonds was similar to this. Two thin iron wires were twisted, and formed the string of a bow. These were used as a saw, the movable teeth being formed of diamond dust. A similar remark applies to a butcher's saw; its metal teeth really act as files. In a surgeon's saw no such action should take place, but the saw in all its delicate perfection should be a true saw, and not a thin file, in order to separate a bone in which there is life, for owing to the presence of this living principle the continuity of the bone fibre should be separated as with a lancet. As instructive examples of these file-like saws, there are two now on the table which show the construction very markedly. They have been lent for this evening, and the mode of using them described to me by their present owner.

One is as a knife, nearly 18 in. long and 2 in. broad, furnished with buckhorn handle, having on the stout back a saw (self-clearing teeth)—a very effective instrument for the purpose of the pioneer; the tradition is that this one had been employed by the Duke of Marlborough's staff to clear the ground of weeds and underwood, to lop off young branches of trees for surveying officers, and finally to serve for camp purposes, dividing the bones, &c., of animals. The other, *Couteau de Chasse*, is in the blade about 25½ in. long by 1½ in. broad, very slightly taper, and really a true old-fashioned hunting sword; both are in good preservation, and as most effective aids to colonists and campaigners, they would be very useful in a museum to suggest to travellers the service to be obtained by a combination that could instantly be used as a tool, or as a weapon for offence or defence, as they could be as readily carried as any mere ordinary knife or sword. Some attempts have recently been made or proposed to combine saw-cutting power with swords and bayonets, but it might be useful to be able to refer to the real instruments found effectual by our forefathers, which, whilst discharging the nominal duties of saws, were really operating as files.

Upon the principle that what enters a mite's mouth must be less than the mouth, we see that for the purpose of separating a bundle of fibres, the "edge" of which we have been speaking cannot be the edge with which we are familiar in axes and chisels. Such an edge drawn across will cut fibres on a surface only; this is insufficient, for a saw is required to cut fibres below a surface.

The tearing also of upper fibres from lower ones is not consistent with true work. To actually cut or separate these is the question to be considered, and the simple answer is another question. Can a narrow chisel be introduced which shall remove the piece of fibre whose continuity has been destroyed by cutting edges previously alluded to? If so, then an opening or way will have been found

along which the back or strengthening part of the cutting edge can be moved. If, however, we look at the work of a single cutting edge, we notice that, although the continuity of the fibre is destroyed, yet the separated ends are still interlaced amongst the other fibres. To obtain a piece removable as by a small narrow chisel, it will be requisite to make a second cut parallel to the first. This being done there is the short piece, retained in position by *adhesion* only, which must by some contrivance be removed, for it is in the way, and the room it occupies is that in which the back of the cutting edge must move. To slide, as it were, a narrow chisel along and cut it out is more simple in suggestion than in execution.

There is another defect upon the application of what at first seems sufficient in principle, but only wanting in physical strength—it is the absence of any guide. To draw a pointed cutting edge along the same deepening line needs a very steady hand and eye. This consideration of the problem requires that some guide principle must enter.

To increase the number of cutting edges, and form as it were a linear sequence of them, may give a partial guidance, and if the introduction of our chisel suggestion be impracticable, then another device must be sought. Instead of the two parallel cutters, it will be possible to make these externally parallel, but internally oblique to the line of cut, in other words to sharpen them as an adze is sharpened and not as an axe, and in doing so one obstacle will be removed, it is true, but a blemish which was non-existent will appear. The combining obliquity of the dividing edges will so press upon the intervening piece of fibre as to press it downwards into and upon the lower fibres, thus solidifying, and, in so far as this is done, increasing the difficulty of progressing through the timber.

For the present, assume that the two pressures to be compounded are equal, then the simple operation is to employ one pressure making (say) an angle of 45° with the horizontal line of thrust. Although this be done, yet if the saws be any length, clearly the angle will vary, and therefore the effect of the sawyer's labour will be counteracted, either as a consequence of excessive thrust or of excessive pressure at the beginning or ending of the stroke. In fact, not only the position in which the handle is fixed on the saw, but the very handling itself will require those adaptations which experience alone can give.

The effect of this will be to cause the forward points to penetrate, and cross-cut the fibres obliquely. The return action will be altogether lost unless the instrument is reciprocated and sloped in the other direction.

If the tool becomes a single-handed one, and relies for its operation upon thrust or tension in one direction only (say thrust), then cutting edges on the back portions of the teeth are useless, and had better be removed.

The experiment worthy of trial is, can the whole power, or nearly the whole power, be converted into a tension or thrust for cutting purposes? To do this the cutting edge must be so formed as to be almost self-penetrating; then the cutting edge is no longer a horizontal edge, but it becomes oblique, on the advancing face, and formed thus there is no reason why it should not also be oblique on the back face, and so cut equally in both directions. The inclination of these faces to the path of the saw must be determined by the power—whether it is capable of separating as many fibres as the teeth ride between, and if these are formed to cut each way (as a single-handed tool) whether it could be done; because it necessitates a construction to which tension and thrust may be alternately applied. The nature of the wood, the power and skill of the workman, and the strength of the metal, must answer this suggestion.

The depth, or rather length of the cutting face, may be decreased, and the number of teeth increased, for the fibres to be cut can-

not be more vertically than can be contained between two teeth. The operative length of the tool must also be taken into account, for the combined resistance of all the fibres resting within the teeth must be less than the power of the workman. It may be well to remark that this difficulty is generally met in practice by the workman so raising certain teeth out of cut as to leave only so many in operation as the circumstances enable him to work. One advantage results by so doing—the guide principle of a longer blade is gained than could be done had the length been limited by that of the operating teeth, or had there been a prolongation of metal without any teeth upon it. To avoid complicating an attempt to deal progressively with the action of the saw, this and perhaps other considerations may for a while pass from notice. Considered as hitherto the teeth and tool are planned for operation in both tension and thrust. Now these are of so opposite a nature that a tool perfect under the one is likely to be imperfect under the other. When the necessary thinness of the material and the tenacity of it are taken into account, tension seems the most suitable; but although the ancients and the workmen in Asia are of this way of thinking, yet in England the opposite practice is adopted. It may be well to give a few minutes to this branch of the subject.

(To be continued).

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

UNTIL of late years, English historians were in the habit of throwing ridicule on the accounts of early Ireland given in native chronicles and annals,—indeed there are still some English writers who never read twenty pages of Irish history, who call the accounts of our early annalists fictions. With these shallow scribes the Annals of the Four Masters would count for nothing when speaking to persons as ill-informed as themselves in Irish history, but fortunately they are discreet enough to keep to generalisations in the presence of those who challenge their right to deny irrefragable testimony.

Modern English historians were set a bad example nearly a century since by some of our native historians, and later by Ledwich, and he is quoted against us at the present day. The works of Geoffrey Keating and Roderick O'Flaherty were ridiculed for a long time; and, though doubtless they contain some mythical accounts, a very large portion of their statements have received ample corroborative proof since their deaths, and every year is adding further proof. Neither Keating nor O'Flaherty invented. What they gave was on the authority of native chroniclers who lived before them; and, outside the page of written Irish history, our buildings and the antiquities excavated and exhibited in our museums go to confirm the advanced state of civilisation, art, and handicraft in Ireland when other lands were in a state of barbarism. What has been written of the Tuatha Dananns is being confirmed. We read in the *Ogygia* of O'Flaherty that the Dananns, in the year of the world 2737, under the command of Nuad with the Silver Hand, invaded Ireland from the northern parts of Britain, and that a decisive battle was fought at Moytura in Partry, county Mayo. Here we are told that, after a bloody engagement, the power and superiority of the Belgae were totally sunk and overturned. Nuad, the general of the Dananns, lost a hand in this conflict, in the place of which he was accommodated with an artificial silver hand—and thus the name of the Silver Handed.

Artificers and men skilled in surgery, even in these early times, would seem to be available in this country, for we read that Cred, a goldsmith, formed the artificial hand for Nuad, and that Miach, the son of Dian Kect, a person well instructed in the practical parts of chirurgery, set the arm. There is nothing very wonderful in a wooden leg or

an arm, or in trepanning the skull of a human person and inserting a plate in it. Great cures, if we believe the accounts we read, were performed abroad as well as at home centuries ago. Wonderfully healing times they must have been without doubt, and the air must have been far purer than in those sanitary days. Nature accomplished what the doctor failed to do now. We read an account of one Hieronymus Capivacius in Italy a couple of centuries since, who is said to have performed most extraordinary cures. He replaced lips, noses, and ears on men who wanted them so effectually that his art was looked upon as supernatural. It is not impossible in the case of a very healthy man, living in a healthy district, having his finger or ear replaced if cut off cleanly by some edged instrument. We have, in the case of animals and birds, witnessed some most remarkable cures, and we once witnessed a cock's spur imbedded in another cock's comb, where it remained for years as evidence that he had won a prize and wore it with no dishonour to his fighting capacity. The lost spur of the one cock continued to grow in the comb of the other without any injury to the wearer.

Coming down to a later period in Irish history than the time of Nuad, let us take an instance of Irish military prowess in the first century. Crimthan Nianair, according to O'Flaherty, was the one hundred and eleventh monarch of Ireland. He ascended the throne in A.D. 74, and reigned sixteen years before he was dethroned. He died at his palace, Duncrimthan, near Binnedair [Ben-Heder, or the Hill of Howth]. He brought home to Ireland from his celebrated foreign expedition a very rich booty, consisting, among other things, of a golden chariot, a pair of tables studded with three hundred brilliant gems; a quilt of singular texture, worked with a variety of colours and figures; a cloak, interwoven with threads of gold; a sword, engraved with various figures of serpents, which was of the purest gold; a shield, embossed with refulgent silver studs; a spear, which always gave an incurable wound; a sling so unerring that it never missed; two hounds coupled with a chain, being made of silver, was worth three hundred cows, with other valuable varieties.

Crimthan was a right royal plunderer, his "boot" was equal to the spoil of some British governors of India in modern times. Some princes have brought home from India to England a number of wild beasts as presents, but our Crimthan, or Crimithan, in the first century had higher tastes, for his objects bespeak a love of the goldsmith's art, improved handicraft, and a desire to forward the interests of civilisation and fine arts in Ireland.

In the year of 1820 an "Essay on the Antiquity and Constitution of Parliaments in Ireland" appeared from the pen of Henry Joseph Monck Mason, LL.D., M.R.I.A. This pamphlet is a very able one, and it is rather scarce, and but seldom met with now. It was printed by William Folds, 88 Great Strand-street, Dublin, the father of George and John Folds, the latter being the publisher of the first volume of the old *Dublin Penny Journal*. Mason's clever "Essay" is inscribed to the Right Hon. Henry Grattan, and a more fitting person could not have been selected, as Grattan, to use his own words, "Rocked the cradle of Irish independence and followed its hearse to the grave." One thing remarkable in connection with the publication of the "Essay" was that the very year that it appeared Grattan died in London and was buried in Westminster Abbey. We often wondered that Mason's pamphlet was not re-published in the interest of different political bodies in Ireland, for, independent of its historical and antiquarian value, it would serve the aims of patriotic advocates, whether they come under the name of Nationalists or Home Rulers. Mason's "Essay" evidences deep research at a time when our national records were not available or so free of access as they are now. According to his preface, it was Mason's in-

tention to make his "Essay" the subject matter of an introduction to the annals of our early parliaments, but want of time and other matters compelled him to relinquish his original intention.

It will not be amiss to quote here the last paragraph in Mason's preface, for it has a point—"I cannot conclude without pointing out to the public, and particularly to the Professors of the Law, the vast importance of having the state and contents of records more amply and generally understood than they are. The perusal of this tract will surely create a surprise when it demonstrates that there are statutes whose contents afford lights in every part of history, and even in modern legal controversy, hundreds of which are utterly unknown to the community, and have never been examined for publication until the establishment of the board under which they are now [1820] preparing for the press."

The Seventh Report of the Deputy Keeper of the Public Records in Ireland, published last year, will show what progress is being made in the arranging of our national documents, which were previously lying in a state of chaos. Students of legal or parliamentary history now will not have much trouble to hunt up a reference. It was otherwise fifty years ago, and even twenty-five years since. The majority of the records, provincial and metropolitan, are now concentrated in the Records Buildings, Inns-quay, specially erected a few years ago for the purpose. Before concluding this note, we may add that a History of Irish Parliaments, if we remember aright, was announced as one of the intended volumes of Duffy's Library of Ireland 30 years since. It was to have been written by the late Sir John Gray, but the work was never undertaken—at least it was never published. Whoever in future may be inclined to undertake the task of a Parliamentary History of Ireland will find the "Essay" of Joseph Monck Mason a valuable help, both as an indice to other works and an able review of the subject in itself.

A new *Biographia Hibernica* is needed. Sir James Ware's notices of Irish writers is valuable as far as it goes, and Harris's addition to Ware, but the latter brings the subject down only to 1745, and even Harris has overlooked several Irish writers of note. He probably was unacquainted with the writings of those he has failed to mention. In the second volume of the *Anthologia Hibernica* of 1793, and succeeding volumes, an effort was made to supplement Harris, and some useful information is given of several native writers of note. In the same publication there are some notices of Irish architects who practised in Dublin in the last century. In the second decade of the present century Ryan published two volumes of a *Biographia Hibernica*, in which are short accounts of several Irish authors and men of note, actors, actresses, authors, and others. Ryan's volume is nowise exhaustive or up to the mark, but withal it is very useful as a reference.

Since Ryan's time many celebrated Irishmen in different fields of art, science, and letters have lived and died who are well worthy of a niche in any Irish biographical dictionary or collection. For Duffy's Library of Ireland the late Thomas D'Arcy Magee compiled a volume on the Irish writers of the seventeenth century, for the materials of which he was indebted to Ware, and others subsequent to Ware's time; and Mr. D. McCarthy also furnished for the same series a volume on the Poets or Dramatists of Ireland, but neither of these latter-named works brings down the subject from Ware's time. There are ample materials for the volume or volumes we have indicated. In none of the English biographical collections or encyclopedias that have been published of late years is there any satisfactory information afforded concerning the lives of eminent Irishmen. The notices of Irish statesmen, churchmen, actors, authors, architects, engineers, or others are very sparse indeed in the volumes

issued by English publishers, and the Irish or English student of history and biography must feel disappointed in consulting these works. The Rev. James Wills, an Irish author of note, published upwards of thirty years ago "Lives of Illustrious Irishmen." This work will be found serviceable to any new compiler, but even Mr. Wills omits the names of several Irishmen of note. Mr. Flanagan's recent volume on the "Lives of the Irish Lord Chancellors" will be found a useful work of reference on this special subject, as also Mr. Gilbert's "Lives of the Irish Viceroy."

In the pages of the *Dublin University Magazine*, since its commencement in 1853, there lie scattered many good biographies of Irishmen of note and native writers, as also portraits of several. In other contemporary periodicals and newspapers during the last forty years a number of short biographies will also be found. Connected with the Young Ireland school of writers and orators the old series of the *Nation* newspaper, and some of the volumes of the new series, may be consulted. These are of a political cast, as also are Dr. Madden's "Lives and Times of the United Irishmen." Supplemental to the last volume, Dr. Madden's "Periodical Literature of Ireland" will be found serviceable. Connected with the periodical literature of Ireland there are some sketches published by C. Clinton Hoey, in a Dublin paper of 1863-4, and re-published, with additions, in a London paper of 1867-9, entitled "Young Ireland: Literary, Political, and Revolutionary," containing a number of notices of the lives and writings of the men of that literary and political school. These sketches were written before the publication of Dr. Madden's volume on the "Periodical Literature of Ireland," and in the introductory notice to the sketches an account is given of the number of native magazines and other efforts made to establish a cheap periodical literature for the Irish people. We could furnish much more information as to sources in which materials might be had for a new *Biographia Hibernica*, but from what we have written it will be seen there is no dearth of material for an industrious student to work upon. Where are our Irish publishers, and what, in heaven's name, are they doing or thinking about? Will they always remain importers and vendors of foreign works at second-hand, instead of producers of volumes on literature, science, and art by native writers?

H.

THE ARCHITECTURAL ASSOCIATION OF IRELAND.

We give on another page the paper on "Professional Practice" read by Mr. Frederick Morley before the above society on the 25th ult., Mr. Thomas H. Longfield being in the chair.

Mr. J. J. O'Callaghan, in the course of some remarks on the paper read by Mr. Morley, commended the advice contained therein on the subject of architectural education. He was of opinion, notwithstanding what had been said to the contrary, that the architectural profession could hold its own with any of the other professions, and disapproved of introducing examinations into the system of art education. He had much pleasure in proposing a vote of thanks to Mr. Morley for his valuable paper.

Mr. A. W. Robinson seconded the vote of thanks to Mr. Morley, and very much regretted that there was not a larger attendance of the junior members of the association to hear so much sound and practical advice.

The vote of thanks was then put to the meeting and adopted unanimously, after which the chairman appointed Messrs. Morley and O'Callaghan scrutineers of the ballot papers for the session 1876-77.

We append a list of names, as returned by these gentlemen and adopted by the meeting:—

—President—W. Fogerty, Esq., F.R.I.B.A.

Vice-President—T. H. Longfield, Esq. Committee—Messrs. H. C. Brett, C. H. Brien, T. Drew, W. J. Fennell, W. M. Mitchell, F. Morley, J. J. O'Callaghan, A. W. Robinson, and John L. Robinson.

The proceedings then terminated.

ARCHITECTURAL ASSOCIATION (ENGLAND).

At the last ordinary meeting of this body, held on the 19th ult., Mr. John Quilter, President, in the chair, a vote of thanks was tendered to Mr. Street, R.A., for showing the members over the works at the new Law Courts, of which he is architect. A notice was given by Mr. H. Stannus that he would at the next meeting, to be held on the 2nd inst. (to-morrow), submit a resolution or resolutions on the desirability of codifying or re-arranging the rules of the association. Mr. Phené Spiers, in reply to a question of the President in the matter of this year's Architectural Examination, said that at a meeting of the committee held in October last it was thought advisable that the examination should be held annually, the examiners agreeing to give their services free. Mr. J. Douglas Mathews then read a paper on "Some Modern Improvements in House-Building." A discussion followed the reading of the paper, which was an instructive one.

MEMORIAL TABLETS IN CITIES.

RECENTLY a movement has been initiated in London, and by the action of the Society of Arts, during the past month a number have been put up on houses formerly occupied or lived in by celebrated men. Among the list we find only the name of one undoubted Irishman, Edmund Burke, and a tablet has been placed on the house once occupied by him, 37 Gerrard-street, Soho. If we were inclined to be very exacting we might claim George Canning as an Irishman, as he certainly was of Irish extraction on the paternal side. A tablet has been placed on the house he lived in, 37 Conduit-street. Among the remainder of the list we find the names of Samuel Johnson, Michael Faraday, David Garrick, Horatio Nelson, Mrs. Siddons, John Dryden, John Flaxman, George Handel, Sir Joshua Reynolds, Lord Byron, and the late Emperor Napoleon III. Several of the above celebrated men visited and lived in Dublin for a while, and conspicuously among them were Handel, David Garrick, and Mrs. Siddons, but after all, their visits were short and professional. Handel we believe resided, when in Dublin in the last century, in a house in Abbey-street—Upper Abbey-street we presume—but at what number we are not aware, or whether the house still exists we cannot say.

We think the idea a good one of putting up memorial tablets, though the system runs the danger of being abused. A great man might by accident sleep one night, or reside two or three days in a house, but this would not entitle the house to a memorial tablet. The house should be one which was lived in for some extended time, months or years, to constitute it a residence of a noted character, and deserving a tablet to perpetuate his memory in connection with it. Several celebrated Irishmen resided in houses in London streets for years, besides Edmund Burke. Grattan and Curran lived for some time in London before their deaths. Curran died at 7 Amelia-place, Brompton, and he was kept full three weeks there, enclosed in an outward coffin of lead, before he was buried in the Church of old St. Pancras on the 14th of November, 1817. As our readers are aware, upwards of twenty years after, his remains were removed to Dublin, and a cenotaph placed above them in Glasnevin Churchyard. The houses occupied by Grattan, Sheridan, and Thomas Moore the poet, can be easily ascertained, as well as those of other illustrious Irishmen who have resided in London.

Throughout Ireland, England, and Scot-

land memorial tablets of old types are plentiful on civil and ecclesiastic structures, and they were common on the ancient half and whole-timbered houses scattered through the three kingdoms. Many of these tablets and inscriptions, however, told only of the builders or those for whom they were built, but the new memorial tablet movement is intended to tell of celebrated men and their haunts, and in this respect it is commendable, and worthy of imitation by all corporate and local bodies over the country. Some few tablets may still be discovered in a tour through the old streets of Dublin, on brick houses of the reign of Anne and the first and second Georges, some with dates and initials and others with the full names. Thirty or forty years ago they were more plentiful. Of genuine memorial tablets put up on houses in honour of celebrated men who were born or resided in them, there are very few in this country at present.

The Royal Irish Academy might initiate a subscription among its members, which would doubtless be responded to by other learned bodies, for the purpose of putting up a few memorial tablets in this city on houses once occupied or lived in by men noted for their literary and scientific attainments. The Corporation of Dublin could also do something in the matter, as it mixes politics with improvements and public bridges with public statues. There is not a square or leading street in certain quarters of Dublin but was once noted for the residence of men who were distinguished in one walk or another—statesmen, orators, soldiers, poets, actors, architects, and others. The old Dublin Directories of the eighteenth and the earlier portion of the present century would supply evidence of the length of time certain houses in this city were occupied by distinguished persons. There are, however, other sources available for that period previous to the publication of general directories. Parish registers and records, and returns connected with the collection of tithes and rates, are accessible.

We hope that our remarks will awake an interest among our citizens to imitate the action of their brethren in London, who are honouring our celebrated countrymen as well as their own in the placing of memorial tablets on the houses they once occupied.

PUBLIC RIGHTS AND PUBLIC AND PRIVATE WRONGS.

JAMES MARTIN v. THE GREAT SOUTHERN AND WESTERN RAILWAY.

It was our intention to have given in last issue a complete summary of this important case, making some observations thereon, but pressure of other matter prevented us. As the case has been pretty fully reported in the daily Press, and several days have passed over since the award of the jury was given, we are not now inclined to review the matter at length. We will, however, remark that the evidence of Mr. James Martin and his witnesses, practical and professional men, seems to have been fairly given. There can be no doubt that the intended railway works in progress will interfere to a great extent with Mr. Martin's business, and lead to the depreciation of his property. If any firm or firms in Dublin are entitled to consideration—even to the strict letter of the law apart—it would be the representatives of the old Dublin firm of John Martin and Son.

If Mr. Martin's professional assessors valued his property at a little too much, there cannot be a shadow of a doubt, on the other hand, that the witnesses and assessors for the railway company valued his loss at a most ridiculously low figure. Mr. Henry Brett, C.E. and architect, stated that the value of lands of Mr. Martin taken by the railway company, and the compensation that should be paid to him for injury to his other lands, amounted altogether to £44,000. This was irrespective of loss of trade by disturbance. Mr. J. Symes, valuator and architect,

estimated Mr. Martin's land taken by the railway company at £40,000. Mr. Parke Neville, C.E., stated that the railway would cause some obstructions to the traffic towards the city from the North Wall. Mr. Arthur Dudgeon, a member of a firm of valuers, said Mr. Martin's land at the North Wall, with frontage to it and the East Wall, comprised 8,371 superficial yards, and, at the rate of the award in Williams's case, the price would be £43,144. The value of another lot not having frontage was £8,575. His total valuation of Mr. Martin's land required by the railway—based on Williams's award—was £53,243.

The evidence of Mr. Denis Lahiff, the manager of the business of Messrs. John Martin and Son for thirteen years, and that of Mr. William Murphy, who managed the shipping business of the firm, was given with great clearness, and received the commendation of Mr. Justice Barry. Anyone perusing the evidence of these two last witnesses must come to the conclusion that a great loss would accrue to Messrs. Martin by obstructions, as well as by increased expenditure rendered necessary in carrying on their trade in future.

On the part of the railway company, Mr. George C. Henderson, architect, gave it as his opinion that the total valuation of Mr. Martin's lands taken by the railway company was £8,411. Mr. George Moyers, LL.D., C.E. and contractor, said that £7,730 6s. 1d. was the proper compensation to be paid to Mr. Martin.

We append a summary of Mr. Justice Barry's address to the jury:—

The case (said his lordship) was certainly one of great importance. On the one side there was a company conspicuous among the great commercial bodies of Ireland, and one which had always been regarded as a credit to the country. On the other side they had an eminent fellow-citizen, the representative of a long line of distinguished commercial men in this city. If he (Justice Barry) had any sympathy in this case, he candidly avowed it would be with the claimant, who was an old friend of his, as were also his brothers. But the case was not to be decided by personal friendship or personal sympathy, or by personal considerations of any kind. It was to be decided as if the person concerned was entirely unknown to them, save so far as their knowledge of him entitled him to respect and regard. The railway company were bound to give Mr. Martin the full value of his land, and in addition, by an universal practice, ten per cent. over the full value on account of the compulsory purchase. They were not entitled to say that they had brought their line to the North Wall to develop the trade of the country, and on that account the compensation to Mr. Martin should be diminished. The jury were to deal with the railway company as making the Liffey extension for commercial purposes for their own advantage. . . . It occurred to him that in the award of Mr. Fishbourne no account at all was taken of any disturbance or inconvenience of trade. If anything of the kind was embraced, the sum given for it was remarkably small. The jury would have to say whether there was any, and to what extent, disturbance or inconvenience of trade. Evidence of a very serious character on that subject had been presented by Mr. Martin and his witnesses, and it would require very serious consideration. On the part of the railway company it was contended that there was really no interference with trade. He (Justice Barry) would be very sorry to have to pronounce an opinion upon the question, and once for all he wished the jury to understand that the amount of compensation to be awarded to Mr. Martin was to be decided by them, and by them only. It was not his duty nor his privilege to do so. And, so far as he appeared to give an opinion upon a matter of fact, they were only to adopt it so far as it met their approval, applying the evidence to the fact in question. Mr. James Martin was the representative now of the old firm of John Martin and Son, of the North Wall. A great deal had been said about Mr. Martin's disinclination to be removed from that locality, associated with the prosperity of his family, and many reminiscences that must be dear to him. But what the jury had to deal with was a mere money matter, and not a matter of sentiment; and although Mr. Martin might not like to leave the North Wall, yet if they could see he would not be damaged by doing so they should not give him pecuniary compensation for the mere matter of sentiment. At the same time, in considering the question of trade disturbance, he thought they should deal with great

liberality with a man if he was put out of his old accustomed place of trade, even although they could not fix the exact pounds, shillings, and pence effect of it. But whether Mr. Martin would be removed or disturbed in carrying on his business was a question which the jury had to determine. One of the obstructions to trade was the alleged intention of the London and North-Western Company to run their trucks across the quay. He could understand carts crossing and re-crossing the quays, but that a railway should run right across the passage of the quay, blocking the traffic, appeared to him to be a strong measure if not very closely watched or regulated. With regard to the right of berthage, there was no doubt that the value of the stores and offices along the quay largely consisted in having that berthage. The berthage was not a matter of legal right, but, of course, it would be a very absurd proceeding on the part of the Port and Docks Board to send vessels away from the stores into which they should discharge, and place them opposite to other people's stores. The practice had been to allow the berthage to the people who had the frontage, and hence the great value of frontage land on the North Wall. Mr. Martin told them that he intended the plot of ground fronting the North and East Walls for a granary—that it was far too valuable to be used as a timber yard. So far as that plot was concerned, the jury had not to deal with trade disturbance, because it was not to have been for the timber trade at all; but they had to consider its value in reference to what they had heard about the granary project, the cost of its erection, £26,000, and the prospect of its being remunerative. Mr. Martin had stated that he was offered, in 1872, £15,000 for a part of that plot. The offer was made on the part of the Midland Railway of England, who contemplated opposing some of the steam companies on the quays. The jury would have to say whether they would regard that offer, made by a competing and opposing company, as a fair test of the value of the land. On the other hand, the fact that Mr. Martin refused the £15,000 manifestly showed that he thought the land worth the money at the time. His lordship then proceeded to deal with the evidence in detail. He was obliged to do this, as the tabulated results of the testimony as to the value founded on instances of sale and purchase, though supplied to him according to arrangement, could not be used, some of the figures being inaccurate and others not founded on the actual evidence given. After his lordship had gone through the evidence, pointing out how it bore on each side on the question of the value of the land taken, he next referred to the question of alleged depreciation of land by the railway, and alleged injury and destruction to trade. In dealing with these matters, they were also to consider whether any and what benefit would accrue to Mr. Martin's land and to his business by the existence of the railway, and, taking a debtor and creditor account, they would give such finding as the evidence warranted. Having observed upon the importance and magnitude of the case, his lordship left to the jury the different questions at issue, stating that their verdict upon each and all was to be founded upon their intelligent and conscientious views of the testimony given.

After a long consideration of the case in the jury-room, and the return of the jurymen to the court, an announcement was made that there was no chance of an agreement as to the amount of the award. There appeared to be a difference of several thousands between some of the jurymen. After another retirement and a re-appearance in court, a kind of a compromise was arrived at—the jury no doubt being influenced by a desire to save the great cost of another trial in the case. Ultimately Mr. James Martin was awarded the sum of £18,000 on the foot of all his claims.

The case teaches a lesson in the matter of public rights and public and private wrongs that ought to be profited by, and it raises strange misgivings in many minds as to the amount of credit that ought to be attached to some professional evidence given on the trial.

CORRESPONDENCE.

RESTORING IRISH RUINS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Will you allow me to call attention to what I believe to be an evil, involving national misfortune to this country, and all the more deplorable as it is a gratuitous, self-inflicted one, and likely to continue—viz., that of attempting to "restore" the monuments of antiquity—the ruined

abbeys, churches, and castles which exist throughout this land.

I am no crack-brained enthusiast on "Old Mortality," nor visionary growler in the dust and rubbish of bygone ages, but I have a deep respect for the venerable relics of a brilliant past. I have a lingering affection for the architectural bequests of our forefathers, and I can enjoy "fair Melrose ariant," while visiting it "in the pale moonlight." I cannot, therefore, but deplore the policy adopted by the authorities in endeavouring to restore or repair these ruins. I visited the Rock of Cashel the other day—one of the finest relics in the three kingdoms, either for interest, age, or position—and was disgusted to find it full of masons and covered with scaffolding. Many parts of it are being actually rebuilt with new stone, while all the ivy and moss is carefully scraped away, which gives the round tower something of the appearance of a mummy newly scrubbed and washed. Cormac's coffin—a stone of some nine centuries' standing—is relieved by a piece of wall of some nine months' standing, and one of the groined roofs is surmounted by cement floors just finished. The structure stands at present (when closely viewed) like a suspicious imitation of some splendid ruin. It is neither genuine nor artificial—neither ancient nor modern.

A friend of mine who visited Cong Abbey lately was likewise disgusted to find there new pillars and fresh carving alternating with the old. What associations can such hybrid and incongruous buildings as these awaken in the mind? To paint the cheeks of a corpse and adorn its head with false hair would be as useful an occupation. This mistaken zeal is of a kindred description with that which led Malone to whitewash Shakespeare's bust at Stratford-on-Avon. We should cherish and guard our public buildings as long as we possibly can, and a little care will suffice wonderfully to prolong their age; and when their time to fall comes, as come it must, in the name of all that is common and sensible, let them fall in a natural and candid way. Still we must guard and cherish them the same as ever—we must check all sources of decay which do not spring from nature.

The "ivy-mantled tower," which the "blighting rust of time and bald antiquity overlays," may be propped, if we wish, by wooden beams or iron bars—"better a crutch than a lost limb." We may do all that sensible sympathy can suggest to keep it from destruction, but to resuscitate ruins with fresh stones and mortar is to destroy effectually all the pleasure they are calculated to afford.

The Rock of Cashel was strangely neglected in times past, but no art can now compensate it for the injuries it then sustained, and, therefore, no necessity demands that art.

Mr. Ruskin uses strong language on this subject, but I believe what he says, and commend his words to the Board of Works:—

"There was yet in the old building some life, some mysterious suggestion of what it had been and what it had lost, some sweetness in the gentle lines which sun and rain had wrought, there can be none in the brute hardness of the new carving. . . . Do not let us talk then of restoration. The thing is a lie from beginning to end. But it is said there may come a necessity for it—granted—look the necessity full in the face and understand it on its own terms. It is a necessity for destruction. Accept it as such, pull the building down if you will, but do it honestly and do not set a lie up in its place. The principle of modern times is to neglect buildings first and restore them afterwards. . . . Watch an old building with an anxious care, guard it as best you may, and at any cost, from every influence of dilapidation, count its stones as you would jewels of a crown. Its evil day must come at last, but let it come declaredly and openly, and let no dishonouring and false substitute deprive it of the funeral-offices of memory. It is no question of expediency or feeling whether we shall preserve the buildings of past times or not. We have no right whatever to touch them. They are not ours, they belong partly to those who built them, and partly to all the generations of mankind who are to follow us. The dead have still their right in them—that which they laboured for the praise of achievement or the expression of religious feeling we have no right to obliterate."

Sir, I know not how many buildings there may be in Ireland in the same predicament as Cong Abbey and the Rock of Cashel, but I have called attention to this subject because if once the principle of "repairing" is admitted, and the example set, it will be adopted throughout the country wherever and to whatever extent the occasion may seem to demand, and we shall soon have a race of lusty and well-to-do nondescript buildings, but not a single genuine, or, as Mr. Ruskin would say, honest ruin in the land.—Yours,

Dublin, May, 1876.

A. W. H.

THE PERMANENT WAY OF RAILWAYS.*

INSTITUTION OF CIVIL ENGINEERS, LONDON.

WHEN, ten years since, the subject of the maintenance and renewals of permanent way was discussed at the Institution, steel rails might be said to have been on their trial. In the few instances where they had been used, they were laid rather as an experiment at stations, and in situations where, from the slow speed of the traffic, no risk was incurred of those sudden fractures to which, it was feared, their brittle character rendered them peculiarly liable. Experience had, however, shown that these fears were groundless, and that steel, with the small percentage of carbon used for rails, was a material greatly superior to iron, both in strength and in durability, and not more liable to sudden fracture. Steel rails had now almost entirely superseded iron rails on the main lines in this country, and the recent reduction in cost of manufacture would probably lead to steel being used exclusively for rails. In 1865, the author showed that the average life of iron rails under heavy traffic was then only three years. Since that time, the goods and mineral traffic on some of the principal English railways had been doubled, and even trebled. As might be expected, this had led to increased expenditure in the maintenance and renewals of the permanent way, but in nothing like the same proportion—a fact testifying to the more durable quality of the materials. Thus in the last ten years on the Great Northern Railway the tonnage had increased 177 per cent., while the cost per mile of maintenance had only risen 45 per cent.; on the Midland the tonnage had increased 113 per cent., and the cost of maintenance 64 per cent., the chief portion of this latter increase being for materials. On the South Eastern and the London and Brighton lines, the relatively small increase in the cost of labour per mile was observable, but there had been a considerable increase in the cost of staff and office charges.

In 1868, the half-yearly reports of the railway companies were required to be prepared according to a uniform system. The distinction between the maintenance and renewals was then abolished. The cost of maintaining the sidings, points, and crossings, hitherto included in "Station Works," was charged against "Maintenance of Way." The author had arranged the tables and diagrams in accordance with this new system. In comparing the cost of maintenance on different railways, it was necessary to take into account the gradients, weight, and speed of traffic in each case, as also the relative mileage of single, double, and triple lines, length of sidings, &c. To afford a common basis of comparison, the author had given the cost of maintenance both per mile of railway and per mile of single line; and much more uniformity was found in the latter than in the former. The average cost of the maintenance and renewals of the permanent way on the Great Northern Railway, during the year 1865, was £124 per mile of single line, the net cost of relaying a mile of single line with iron rails being £1,371. Dividing the latter amount by 124, gave eleven years as the average "money life" at that time; in other words, the annual sum then spent would renew the entire mileage of the railway in that period. In 1875, when steel rails were used, the cost of maintenance and renewals per mile of single line was £184.78, the net cost of relaying a mile of single line being £1,626, giving a "money life" of only nine years. The "money life" of this permanent way had therefore diminished during the last ten years—a result due partly to the rise in wages, but chiefly to the increased amount of labour in upholding the substructure of the road; indeed, the cost of labour in "maintenance" amounted to four times the labour required for "renewals." On com-

paring the average cost of the maintenance and renewals of the nine principal English railways, it appeared that on the Lancashire and Yorkshire Railway it was the highest, and that consequently the "money life" was the least, viz., only 6.66 years; the maximum "money life" being found on the South Eastern and the London and Brighton Railways, viz., 10.50 and 10.38 years respectively. The average annual cost per mile of single line of the nine railways alluded to during the last ten years, was about £158 per annum, equivalent to an average "money life" of 7.61 years, assuming iron rails to have been used for the renewals. During 1875 the average cost of maintenance of these nine railways had been £213.64 per mile of single line, which, even assuming, as was not the case, that steel rails had been entirely used for renewals, gave only 7½ years as the present "money life" of nearly one-half the railway mileage of the kingdom. The annual cost of the maintenance of the permanent way on these railways represented 2.10 per cent. interest on the ordinary capital, so that one year's increased "money life" would be equivalent to an addition of ½ per cent. interest on such capital—a fact which showed the importance of the efforts to render the permanent way more durable.

The actual life, or duration, of the permanent way should not be confounded with the "money life," the latter being merely the ratio which the annual cost of maintenance bore to the cost of construction. In the author's previous paper, it was mentioned that some iron rails on a portion of the Great Northern Railway had only lasted 2½ years. The rails which replaced these in 1863, guaranteed for seven years, were not taken up finally till 1870; in the meantime, however, a great portion of them had been renewed, so that the average life was only about 5½ years. The life of rails was entirely a question of tonnage, and of speed and frequency of the trains. Thus on the Loop line of the Great Northern Railway, from Peterborough to Gainsborough, which was opened in 1848, and where the traffic was much smaller than on the main line, the earliest renewals of the rails occurred in 1868, and only within the last year had the up line been renewed throughout. In the down line some of the original rails were still in the road, after 28 years' wear, during which period about 39 million tons of traffic had passed over them. The East Lincolnshire section of the Great Northern Railway was opened the same year as the Loop. Only 21 per cent. of the up line and 4 per cent. of the down line had been renewed, the rails still in the road having a considerable amount of wear in them. The tonnage over these rails had been 13,400,000 and 14,300,000 tons on the up and down lines respectively. During the last ten years 85 per cent. of the mileage of the Great Northern Railway had been renewed, and the average life of the rails was nearly 16 years. With this average life of iron rails, and assuming that sleepers lasted 8 years, the estimated average cost of renewals per annum would be £128.90 per mile of single line, while the actual cost had been £139.55.

Steel rails were first laid on the London and North Western Railway at Camden Town in 1862, and at Crewe Station in the following year. Diagrams were exhibited showing the wear and amount of tonnage which had passed over the latter. On an average it appeared that a wear of 1-16th of an inch of the tables corresponded to a traffic of 9,370,777 tons. On the Great Northern Railway steel rails were first used at the coal sidings at King's Cross, but the tonnage over them could not be ascertained. In February, 1867, steel rails were laid in the up and down lines in Maiden Lane Tunnel. On the down line the traffic was of a heavy character, consisting chiefly of shunting. A diagram was exhibited showing the worn outlines of these rails, the tonnage over them, and the chemical constituents of the steel. The traffic corresponding to a wear of 1-16th of an inch of the tables varied from

5,251,000 to 31,061,000 tons. Similar diagrams were exhibited, showing the wear, the tonnage, and the chemical analysis of steel rails on other portions of the Great Northern Railway. Steel rails were first laid in the running road in 1866-7, on the up line, near Hornsey. A template of one of these rails was exhibited, showing a wear of only 0.15 of an inch during a period of 9½ years, the traffic having been 66,546,000 tons, equivalent to 27,727,000 tons for every 1-16th of an inch. The proportion of carbon in this rail was only 0.320 per cent. The analyses for this communication were all made by Mr. Riley.

The Metropolitan Railway was opened in January, 1863, as far as Farringdon-street, and the extension to Moorgate-street in 1865. The greater part of the steel rails had been worn out, and in some cases, twice renewed, owing to the enormous traffic. The renewals chiefly occurred near the stations, where the breaks attained their maximum effect, that was intermediate between the points where the breaks were first applied and the station platform. Diagrams were shown of the worn outlines of these rails, of the tonnage over them, and also of the chemical analyses of the steel—the most noticeable features being in the case of the rails in the Clerkenwell tunnel, where a considerable difference in the wear was observable in the wet and dry portions of the tunnel, although the amount of traffic was the same.

In a recent paper the process of hammering the ingot had been recommended in preference to first cogging it and then rolling it into the finished rail, the latter process having, it was stated, the effect of injuring the metal. The author had had some experiments made at Mr. Kirkaldy's with a view of practically testing the relative merits of the two systems. The results of these experiments showed that rails rolled direct from cogged ingot had decidedly the advantage, being about 2½ per cent. stronger on the average than those rolled from hammered ingots. On the Great Northern Railway rails rolled from "cogged" ingots had endured ten years of the heaviest traffic, and were still in a serviceable condition.

The author had also made experiments as to the relative strength of deep and ordinary fish-plates. The results showed that the average strength of the deep-fish plate was 67 per cent. of the strength of the solid rail, whereas the average strength of the ordinary fish-plate was only 22 per cent. Experiments were likewise made to determine the transverse strength of steel rails, with punched, drilled, and partly punched and drilled fish bolt-holes; likewise steel rails which, previous to being subjected to punching, drilling, &c., had been toughened by being plunged in water when hot. It was thus ascertained that the strength of steel rails not subjected to the toughening process, with holes punched cold in the ordinary way, was 65.39 per cent. of that of the solid rail; whereas the strength of the rails with drilled holes was 98.68 per cent., and the partly punched and afterwards drilled rails 97.80 per cent. of the strength of the solid rail. The effect of the toughening process was materially to increase the strength of the steel rails, especially the rails with the punched holes, which showed an increased strength of about 58 per cent. as compared with the untoughened punched rails. In conclusion, the author expressed a hope that in future steel rails would be made of such uniform quality as would ensure, as an average, the maximum endurance already met with in some of the instances referred to—about 30 million tons for a wear of 1-16th of an inch of the tables. With such a quality of material the average life of a steel rail would be about 300 million tons, equivalent on the most heavily-worked portion of the Great Northern Railway to a 42 years' life. The effect of this increased duration would be to reduce the present average annual cost of renewals—viz., £213 to about £107 per mile of single line.

* Read by Mr. R. P. Williams, on the 23rd ult.

FIRE-PLACE, DONEGAL CASTLE.

THE double-page lithograph of the above which we give with this issue, was drawn by Henry MacManus, Esq., R.H.A., and was recently shown at Exhibition of "Dublin Sketching Club." The fire-place remains in tolerable preservation in what was known as the banqueting hall. Our artist has supplied the portions abstracted by the hand of Time. The fire-place is composed of freestone, and is formed in the fashion of the time of James I. The arms are Brooke empaling Leicester, which identifies them as put up by Sir Basil Brooke; the other, the arms of Brooke only.

PHOTO-LITHOGRAPHY:

ITS USES AND ADVANTAGES.

WE have much pleasure in directing the attention of our readers to the specimens produced by the photo-lithographic process which accompany the present number of the IRISH BUILDER. This new and beautiful art has been brought to its present state of perfection by the "City Printing and Lithographing Company" (late Pim Brothers and Co.), William-street.

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THE ROYAL IRISH ACADEMY.

THE AMALGAMATION SCHEME.

At a meeting of the Academy on the 22nd ult., a report from the Council was presented, and it was resolved that it be printed and circulated, with such further report as the Council might think expedient. It was also resolved that a special meeting be held on the following Monday to take the opinion of the Academy on:—"The wisdom of the action the Council has taken in repudiating the scheme of amalgamation;" and "The propriety of declining to acquiesce in the transfer of the accountability for the Parliamentary votes for the Academy from the Irish Government to the Educational Department, South Kensington."

A special general meeting was accordingly held on Monday evening last, when Dr. Ingram read a supplemental report from the Council [which pressure on our space prevents us printing in full.] It winds up as follows:—"It may be said by some persons that, in opposing amalgamation with other societies in Dublin, and declining to become a branch of the South Kensington establishment, the Academy would show a selfish inclination to stand in the way of the creation of a great science and art museum for Ireland. This would be an entire misrepresentation. There is no excuse for confusing those questions with that of the transfer of our antiquarian collections to the Government. The Academy has distinctly declared its desire to co-operate in the establishment

of such a national museum, and its willingness to transfer these collections to the Government under reasonable conditions, similar to those conceded to the Scottish Society of Antiquaries. Had it, however, been understood that either the scheme of amalgamation, or subordination of the Academy to the Science and Art Department, was intended to form part of the Government plan, as communicated in Lord Sandon's letter, the Council could not have recommended the Academy to entertain the proposal at all. The action which the Council recommended may, they are aware, be attended with serious consequences. But the issues involved appear to them to be of such high importance that whilst fully impressed with the gravity of the crisis as possibly affecting the resources—if not the very existence of the institution—they yet feel bound to advise the Academy:—(1) Not to accept the scheme of amalgamation with the Royal Dublin Society; and (2) Not to acquiesce in the transfer of the charge of its vote from the Irish Government to the Science and Art Department."

The report was received and unanimously adopted by a very full meeting.

BOOKS RECEIVED.

The Clerk of Works. A Vade Mecum for all engaged in the Superintendence of Building Operations. By George Gordon Hoskins, F.R.I.B.A. London: E. and F. N. Spon.

THE author of this tiny little book informs his readers that during the earlier part of his professional career he filled the position of clerk of works for many years. This fact is quite enough to render his book of great value to those who may be seeking for a similar post. Its price will not abstract much from the pocket of even an ill-paid clerk of works.

Studies in Design. By Dr. Dresser. Part 19. Cassell, Petter, and Galpin.

ONE part only remains to complete this very valuable work, to which we have already drawn attention as issued in parts by its enterprising publishers.

LAW.

MASTER PIGOT'S OFFICE.

(Before the Master and a Jury of Six.)

George Holmes v. The Val de Travers Paving Company (Limited).—Plaintiff in this case sued defendants for damages for their neglect in not keeping certain premises on Sir John Rogerson's-quay in repair. Judgment had been allowed to go by default, and the case now came into the office for the assessment of damages. Plaintiff, Mr. Holmes, a gentleman engaged in the plaster of Paris and cement trade, became in June, 1868, the tenant of Nos. 71 and 72 Sir John Rogerson's-quay, and a yard on a space of ground at the back. He laid out £600 in building stores and putting the houses into order, and he let the houses in tenements. In October, 1871, defendants became leasees of the premises under plaintiff, and their lease contained a covenant to keep the premises in good order and condition. Afterwards a store was built adjoining the houses by another firm, which had the effect of weakening the foundation of one of them. For this and other deterioration the Val de Travers Company brought an action against the owners of the store, and recovered £350 damages. Plaintiff now sought to recover compensation from the company. The evidence given on both sides was purely as to the extent to which the premises had been depreciated. The jury found a verdict for the plaintiff for £550. On a subsequent day, application was made to the Court of Exchequer to set the verdict aside and to grant a new trial, which was agreed to.

HOME AND FOREIGN NOTES.

NEW YORK.—A recently issued account of the buildings in New York city places the number of dwellings, including hotels, at 67,156; and of stores and other business places, at 16,971. There are 20,485 tenements, 425 churches, 27 theatres, and 10 distilleries.

ALEXANDRA PALACE.—The attractions of this popular place of resort continue to increase. On Whit Monday the programme offers great inducements for old and young, and for a variety of tastes.

Amongst the rest will be a grand ballad and instrumental concert, theatrical representations, circus and trained animals, an evening military concert, and a variety of out-door amusements upon the palace grounds. During the summer, visitors from this side of the Channel ought not neglect a visit to Alexandra Palace.

A WORKMEN'S HOLIDAY EXCURSION.—The directors of the Coffee Palace, Townsend-street, have issued a programme for an excursion to Lucan Demesne on Monday next, at 10.30 a.m., by special train from North Wall station of M.G.W. Railway. The small sum of half-a-crown is fixed as the charge for the entire pleasures of the day. There will be flat races, music, dancing, tea, &c.

THE GENERAL CONFERENCE OF ARCHITECTS.—As may be seen by the advertisement, the conference commences upon the 12th of June. We are unable at present to say to what extent it will be responded to by architects in this city. We hope, however, that the profession will be creditably represented.

THE MONUMENT OF SIR TOBY BUTLER.—We are asked to state that this monument, which stands in St. James's Churchyard, is about being "restored" at the expense of Colonel Augustine Butler, D.L., of Ballylone, county Clare, under the direction of Mr. W. Fogerty, architect. Messrs J. and W. Beckett are the contractors. In our number for November 15th, 1871, we gave some "Historical Particulars" of Sir Toby, and printed a translation of the Latin inscription on his monument, accompanied with a rough sketch. At present we can do no more than call attention to the fact that we then wrote—"Sir Toby Butler's monument, we regret to say, has never received any attention, and it would be a kind thought of the Irish Bar to put it in a proper state of preservation."

The new line of railway between Newry and Greenore is nearly completed. The directors are to inspect in on Monday next, and it is expected the opening will take place early in July. The entire works have been carried out in the best manner possible by the contractors, Messrs. Connor and Manisty. The attention of the directors has been called to a few minor matters of detail in which there have been deviations from the plans as settled before the arbitrator. The parties concerned will doubtless be ultimately satisfied by the company.

THROAT IRRITATION.—The throat and windpipe are especially liable to inflammation, causing soreness and dryness, tickling and irritation, inducing cough and affecting the voice. For these symptoms use glycerine in the form of lozenges. Glycerine, in these agreeable confections, being in proximity to the glands at the moment they are excited by the act of sucking, becomes actively healing. 6d. and 1s. boxes (by post 8 or 15 stamps), and tins, 1s. 6d., labelled "JAMES EPPS & CO., Homoeopathic Chemists, 48 Threadneedle-street, and 170 Piccadilly, London." Sold in Dublin by Hamilton, Long & Co., Lower Sackville-street.

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TO BE SOLD BY AUCTION, on Thursday, 15th JUNE, 1876, by directions of GEORGE MOYER, Esq., Contractor, in the large Field in HARRINGTON-STREET, South Circular-road, opposite to Saint Kevin's R. C. Church.

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SALE AT THE NORTH DOCKS, LIVERPOOL, TO BE SOLD BY AUCTION, on Friday next, the 2nd of JUNE, 1876, commencing at Eleven o'clock precisely, in the BROKERS' MAHOGANY SALE SHEED, NORTH CARRIERS' DOCK, LIVERPOOL—

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PRESS NOTICES.

Athenæum.—We cannot now continue an examination of the contents of Mr. Brash's capital book. Let it suffice them that we recommend the perusal of the chapters on the churches of the Cistercian Order, Fonts, some of which have curious peculiarities, Masonry, and Early Christian Masonry. Mr. Brash is a painstaking and accomplished student.

Academy.—Since Petrie gave to the public his (alas!) unfinished work on the Ecclesiastical Architecture of Ireland previous to the Anglo-Norman Invasion, the work which heads this article is the most important and valuable contribution to an interesting and almost unexplored branch of knowledge. The volume does great credit to the enterprising publisher.

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The Irish Builder.

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The Irish Builder.

VOL. XVIII.—No. 396.

The Royal Irish Academy and the Science and Art Scheme.



IN our last issue we had only time and space to give the decision of the Royal Irish Academy Council and body in respect to the annihilating scheme, made in the interest of the South Kensington Science and Art Department. In this issue we publish the full report, as it is likely to become a historic document. We were the first, or one of the first at least, to state our honest objections to what we considered not only an obnoxious but a degrading proposal; and we are extremely glad that the Royal Irish Academy has rejected the scheme as formulated in Lord Sandon's letter. We yield to none in our desire to see Science and Art facilities extended to the people of this country, and of

having a really serviceable Art and Science Museum established, with all necessary adjuncts; but it was impossible that we could tamely acquiesce in a measure that would strike at the root of our only native and representative institutions, and transform one at least of the most popular and historically distinguished into a mere branch of another department outside our shores. We have a high regard for the Royal Dublin Society, for there are many memories in connection with its career which we would not willingly like to see obliterated; but the Royal Irish Academy, though a younger body, yet its centenary, which nears, recalls names and services which are no small part of Irish history and science—its growth, culture, and victories. A nation that surrenders its representative institutions goes backward instead of forward, and delegates to another the functions which constitute its own entity and life-blood.

Ireland as now situated, legislatively speaking, is a governed nation instead of a governing one, and through this cause it cannot be doubted that she loses much that would otherwise contribute to her greatness. It is not our purpose, however, in this journal to enter into political dissertations, or to estimate how much we may have lost by the absence of a native senate. We must accept facts as they are, yet we cannot help concluding—politics apart—that had the Royal Irish Academy retained the fostering care of a local legislature during the last three-quarters of a century, its position, collections, and influence would be second to none in Europe. It started into life in the days of an Irish Parliament; it had many members

and friends in both houses, and its existence would never be in peril through the lack of grants had the Act of Union not occurred. What was not only possible and probable, but positively certain under a native rule had it continued, why should it be impossible under a united British Parliament?

Neither the Royal Dublin Society nor the Royal Irish Academy has ever been made the arena of political or religious strife. Science, Antiquities, and Polite Literature was the standard of the one; and Husbandry, Art, and Manufactures the motto of the other. As the age advanced, improvements in both institutions were called for and were necessary, but all that could have been achieved with Irish hands if both societies were afforded grants long years since, like those voted in aid of cognate institutions in the sister kingdoms. The services of the Royal Irish Academy in the fields both of science and history may be found in its "Transactions;" but it is not by these records alone the work of the Academy is to be estimated, but by its influence and the example its proceedings from year to year afforded to other British and foreign learned bodies. Theory and practice combined is illustrated in numerous papers of the Academy, and our native body can point with pride to the work it achieved in the pioneer paths of original research. An institute that has accomplished this and much more, was asked to blot out its past life, and surrender its present existence.

Amalgamation with the Royal Dublin Society meant simply the extinction of both native bodies for the satisfaction of the South Kensington bureau, which desired an Irish branch of its own department, governed and directed by its own nominees. We have no objection to Government supervision; indeed, it is healthful in many cases where large public grants are made; but we look upon the transference of the charge of the vote from the Irish Government to the Science and Art Department at South Kensington as a most sinister move, designed to expedite the amalgamation. It would be one thing for the Academy to unite its fortunes with the Royal Dublin Society as it now stands, but it is quite a different matter under the new scheme when the Society would only be the shadow of its former self.

Apart from this, the sphere of action of both institutions has differed widely, though meeting at points. There is still ample room in this country for the work of the Royal Dublin Society, without clashing with any other body. A moment's consideration of the subject would convince any sensible person of the fact, but some persons are so blinded by prejudice that they will not allow it.

It would be a sad thing in this country to witness the annihilation of two old and historic institutions to make room for a new creation with nothing "racy of the soil" about it save the collections, that it could take no credit in bringing together. As far as the Royal Irish Academy is concerned they have not put any real obstacles in the way to the formation of a Science and Art Museum, no matter what may be said to the contrary. From the beginning the Academy consented to hand over its collections under reasonable conditions, but not to subordinate itself to the rules of the Science and Art Department. The amalgamation scheme meant nothing more than the thorough subordination of the united bodies to a bureau in

London; and if that was once carried out, the Royal Irish Academy henceforth would only be an olden memory and not a brilliant and living reality.

Having discussed this Science and Art scheme on several previous occasions we will not now enter into further details, but will conclude by expressing our satisfaction that the Royal Irish Academy has done a wise and a sensible thing in rejecting the scheme in its present shape. The opinions of Dr. Haughton, Dr. Jellett, and Dr. Russell, the President of Maynooth College, as expressed at the late meeting of the Academy, were worthy of every consideration, and no doubt contributed much to the unanimous resolve of the members. Dr. Jellett gave utterance to burning words, pithy, proud, and vehement, and the report and carried resolutions were worthy of a truly native Royal Irish Academy.

CONVERSAZIONE OF THE CIVIL ENGINEERS (ENGLAND).

ON the 1st inst., on the invitation of the president, Mr. Stephenson and Mrs. Stephenson, a very numerous company, including nobility, gentry, and professional men, attended a *conversazione*, held at South Kensington. The *réunion* was originally intended to take place in the galleries occupied by the "Loan Collection of Scientific Apparatus," but the crowded state of those galleries necessitated a change for the better accommodation of the guests. We consider this year's *réunion* was fully equal to the preceding ones we attended, and the attractions were almost endless, spread over a magnificent suite of apartments, full of the finest and most valuable collections of art treasures and artistic industry in Europe.

The reception of the guests by the president and Mrs. Stephenson commenced at 9 o'clock. Refreshment buffets, provided with articles of the choicest kinds—light food, fruits, and drinks, &c.—were available for all without stint. Throughout the evening the band of the Royal Marine Light Infantry, which attended the Prince of Wales on board the "Serapis" to India, performed a selection of music in the North Court, the string band of the Royal Engineers doing similar service in the Sheepshanks gallery.

Midnight approached before the guests began to depart. Indeed, to a first visitor the sights and objects were so many in the several courts and galleries, that a whole month would be insufficient for more than a cursory inspection. Where tastes, however, are so varied among a great number of persons, the objects that interest them the most receives their special attention. It was, doubtless, so with the guests at South Kensington. The thought strikes us that these yearly *réunions* must be rather expensive affairs, and we hope that the successive presidents are not permitted by the institution to bear the whole cost. In whatever way they may be organised, managed, and sustained, these *conversazioni* clearly evidence the public spirit, and reflect considerable credit on the Institution of Civil Engineers.

THE DUBLIN CARPENTERS.—At a general meeting of the "Regular Carpenters," No. 2 body, Cork-hill, it was unanimously agreed that on and after Monday, the 19th of June, the wages of the members of their trade shall be 6s. per day, and 8d. per day extra three miles from the General Post Office.

THE ARCHITECTS IN COUNCIL.

WE give elsewhere a summary of the opening proceedings of the General Conference of Architects, which commenced on Monday at the rooms of the Royal Institute of British Architects in London. It would be premature on our part, writing as we are while the business of the Conference is not half over, to forecast the results. Were we to venture an opinion it would be one favourable, for we cannot see that a Conference like the present could result otherwise than in good.

Whatever may be the shortcomings of the present Conference, we think it is, at the same time, a forward step in the right direction, and we trust that it will lead to a better understanding between metropolitan and provincial architects, and establish a brotherly spirit, and while not leading to any direct centralisation to the injury of the country members of the profession, will make the interests of all common;—that it will, in a word, result in the elevation of architecture as an art, and the architect as an honourable member of an honourable profession.

We will not say more at present.

LETTERKENNY CATHOLIC HALL.

WITH present number we give interior and exterior views of the New Catholic Hall and Literary Institute, Letterkenny, in course of erection from the designs and under the superintendence of Mr. Timothy Hevey, F.R.I.A.I., Belfast. The builder is Mr. John Harkin, Letterkenny. A full description is held over until our next issue.

THE ARCHITECTURAL ASSOCIATION OF IRELAND.

AN extraordinary general meeting of this association is called for Thursday evening next, 22nd inst., in accordance with a requisition received, proposing an alteration in Rule 5, as regards the office of President.

The annual excursion will be on Saturday, the 24th inst., when it is proposed to visit "The Seven Churches at Glendalough," where excavations have recently been made. The members will dine at Jordan's Hotel, Glendalough.

ARCHITECTURAL ASSOCIATION (ENGLAND).

AT the last meeting of this association, held on the 22nd inst., Mr. Quilter, president, in the chair, a vote of thanks was accorded to Mr. Isaacs for the facilities afforded by him on the occasion of a recent visit paid by members to the Viaduct Hotel. Mr. S. Flint Clarkson (hon. sec.) announced the receipt of an invitation to the members to the Architectural Conference, and he said that as the majority of the London members who were in actual practice were also members of the institute, the committee desired that any other gentlemen who wished to attend should send in their names so that the necessary information might be given to the hon. secs. of the Conference committee. Some discussion followed on the proposal made by Mr. Stannus at the last meeting for the revision and codification of the rules of the association. He now proposed that the rules be referred to the committee for consideration, with instructions to report to the association thereon. Mr. Pownall seconded the motion. Mr. Clarkson moved as a rider that no radical alteration in the form of the rules is now desirable. Additions might be made from time to time as circumstances required, and he thought that some elasticity in the rules was desirable as being more in harmony with the objects of the association than a fixed and arbitrary code. Mr. Bowes A. Paice seconded the

motion of Mr. Clarkson, and some conversation ensued, in which Mr. Robertson, Mr. Stannus, and Mr. R. P. Spiers took part, the latter being of opinion that the committee should be left unfettered in the matter. He thought that the lateness of the session was an objection to the scheme now brought forward. Ultimately both the motions were withdrawn, and it was resolved by a large majority that a draft of the suggested new code of rules produced by Mr. Stannus be referred to the committee, and, subject to any amendment thereof, be published as an appendix in the next brown book, with a view to the further consideration of the question.

Mr. J. Norton then read a paper, entitled "Notes on the Construction of Aquaria." A brief discussion followed. A second paper was read by Mr. W. W. Robinson—"The Principles and Application of the Theory of the Truss." Both papers were full of interest, the latter being a practical and suggestive one. Reference was made by Mr. Robinson to Mr. Bindon Stoney's (the engineer to the Port and Docks Board of Dublin) able work on "Strains in Girders."

CONGRESS OF FRENCH ARCHITECTS.

SIMULTANEOUSLY with the conference of British architects, a congress of French ones is now being held under the presidency of M. Lesuer, at the *École de Beaux-Arts*, Paris. Papers are being read, and places visited daily. Like the London conference the proceedings at Paris commenced on Monday, and will terminate next Saturday. Mr. Charles Lucas is the secretary of the Paris Congress committee.

THE GENERAL CONFERENCE OF ARCHITECTS.

THE opening meeting of the General Conference took place on Monday evening, at the Rooms of the Royal Institute of British Architects, Conduit-street, London. There were a very considerable number of metropolitan and provincial representatives of the profession present, including several from Ireland and Scotland. Among those present (Mr. Charles Barry presiding) were—Sir Gilbert Scott, Messrs. J. L. Duc, of Paris; Prof. Donaldson, E. M. Barry, R.A.; George Godwin, F.R.S., F.S.A.; Thomas H. Wyatt, Alfred Waterhouse, Professor Kerr, Edmund Sharpe, T. C. Clarke, Chas. Fowler, Mathew Wyatt, Professor Fergusson, A. Salvin, Octavius Hansard, Roger Smith, Arthur Cates, J. Douglas Mathews, F. Cockerell, C. L. Eastlake (Secretary), Phené Spiers, George Honeyman, Thomas Drew, R.H.A. (Dublin); J. Rawson Carroll, (ditto); Alfred Strong, C. J. Phipps, John Baird, — Curry, Rowland Plumble, Ralph Nevil, F. J. Robinson, &c.

Before the commencement of the Conference, some formal business of the session was transacted. The newly-elected president, Mr. Charles Barry, in presenting the Gold Medal of the Institute to Mr. Joseph Louis Duc, a member of the Institute of France, said the prize was given by the Queen, but it was placed at the disposal of the British Institute, and the members thought that once in three years it should be bestowed upon some eminent foreigner. The President spoke of the recipient as a brother in art—the architect of the graceful columns in the Place de la Bastille, the restorer of the Palais de Justice, the winner of the decennial prize of the Emperor Louis Napoleon, given to the architect whose works were deemed to have the greatest merit,—and added that M. Duc had devoted half the amount of that prize, which was of the value of some thousands of pounds, to the establishment of scholarships for young artists. M. Duc

briefly returned thanks in French, and, in bowing his final acknowledgments, received the hearty applause of all present.

Mr. J. P. Cockerell, hon. sec. for foreign correspondence, then read a congratulatory telegram, having reference to the presentation just made, received from the architects of France assembled in congress at the *École de Beaux-Arts*, and signed "M. Bailly, president, and Auguste Duvert and Lucien Etienne, secretaries."

The prizes were next presented to the successful students by the president, who prefaced each award with some graceful words:—The Soane Medallion (for a design of a country house), to Mr. Josiah Conder; a medal of merit (for a design of a country house), to Mr. J. J. Harris; a medal of merit (for a design of a country house), to Mr. William Niven; Sir W. Tite's prize of £40 (design of a concert room), to Mr. Alfred Reading; the Grissel Medal (design for a hall and staircase), to Mr. George Stevenson; the Institute Medal and £5 (for drawing of St. Alban's Abbey), to Mr. James Neale; the Institute Medal (for drawings of Dryburgh Abbey), to Mr. James Lindsay; the students prize (for a design of a park lodge), to Mr. Henry Branch; the Pugin studentship (for the best set of drawings), to Mr. E. J. May; a medal of merit (in same competition), to Mr. Thomas Garra; a certificate of honourable mention, to Mr. W. Talbot Brown.

This concluded the business of the session, and then the president made some explanatory remarks respecting the objects and scope of the Conference then being commenced. He observed it was the fourth Conference, and he trusted that the visits and other arrangements made would prove instructive and agreeable to all who took part therein.

Mr. Charles L. Eastlake, secretary, then read his paper, "An Historical Sketch of the Institute." The paper was very comprehensive, and not only dealt with the establishment and career of the Institute of British Architects, but told the story of the precursor societies that preceded it, and were at last merged in it when becoming a representative institution. As the paper or sketch will be given in detail in these columns, we will not here attempt to summarise. It may be remarked, however, that Mr. Eastlake does strict justice to the founders of the Institute, among whom are still some living veterans not more distinguished for their architectural knowledge as practical architects than they are as eminent as literary men and social reformers.

At the conclusion of the reading of Mr. Eastlake's paper, the president remarked, as Professor Donaldson was present, that he might, perhaps, wish to say a word or two in reference to subjects passed under review in Mr. Eastlake's paper, particularly as he (Professor Donaldson) may be truly looked upon as the father of the profession.

Professor Donaldson briefly replied that he had no exceptions to take to anything that was stated; and that, on the whole, he thought the paper just read was a truthful account of the rise and history of the Institute. He concluded by moving a vote of thanks to the author, which was seconded by Mr. T. H. Wyatt.

A vote of thanks to the president, moved by Mr. George Godwin, accompanied with a few appropriate words, followed, immediately after which the first day's meeting of the Conference closed.

During the evening, prior to a ballot for members—a number of whom entered as fellows and associates,—the election of Professor F. Meldalhl, President of the Royal Academy of Copenhagen, and Professor Alexander Resanoff, Rector of the School of Architecture in the Imperial Academy of Russia, as honorary fellows, took place.

SECOND DAY.

On Tuesday the Institute resumed its sittings at 3 p.m. The early portion of the day was occupied on the part of several members in visiting various places. Amongst those

particularly mapped out and visited were: the Improved Dwellings of Mr. Allen, Manor-road, Stoke-Newington; Industrial Dwellings, Bethnal-Green; and the Peabody Buildings, Southwark-street. Each of these blocks of buildings is illustrative, in design and arrangement, of methods considered by their respective projectors as the best suited for providing accommodation for the working-classes, with a view to economy and health.

The Conference meeting this day was presided over by Mr. George Godwin. He commenced by alluding to the efforts now being made, and those made half a lifetime ago, in the direction of local and sanitary reform by providing better dwellings for the people, and modestly indicated the satisfaction that he himself felt in knowing and feeling at last that the work of his fellow-labourers in the cause of sanitary improvement was being acknowledged, and the great want of the time provided for.

After a few words more, Mr. George Villiamy, of the Metropolitan Board of Works, read a paper on the "Artisans' and Labourers' Dwellings Improvement Act. The paper commenced by describing the evils modified by this statute, the results of causes operating for many generations, and went on to describe the proceedings under the act, and the different schemes now under consideration in the London metropolis—the Holborn scheme, the Whitechapel and Limehouse scheme, and other schemes, concluding with some notes on previous legislation in the same direction.

A paper by Mr. Frederick Chancellor followed: "Improved Dwellings for the Working Classes." This paper dealt, firstly, with the general arrangement and planning of houses, and, secondly, the particular arrangement of each dwelling. In the first plan an enclosed or partially enclosed staircase gives access from top to bottom, generally in front, gives access on each landing to two dwellings. The second plan is known as the gallery plan, one staircase, usually at the end of each block, giving access to the external galleries to each floor by which the dwellings are approached.

A paper by Mr. Foster Haywood, F.S.A., and Mr. Charles Barry followed, and afterwards came a series of short papers, descriptive particulars, and discussion of the absorbing subject under notice, in which the following gentlemen took part:—Mr. James Blashill, Mr. Gatley, Mr. Ward Lee, Mr. Mathew Allen, Mr. Charles Fowler, of the Metropolitan Board of Works; Mr. Henman, Mr. Roger Smith, Mr. Edward Smith, of Dundee, Mr. Aitcheson, and other metropolitan and provincial architects.

Mr. J. Rawson Carroll, of Dublin, took occasion to remark that he considered many of the dwellings now being built were not exactly suited for the class of people that needed to be provided for. He objected to the arrangement carried out in some of the blocks. He thought that we might improve many of the old buildings, and adapt them to the wants of a still lower class. The majority of the buildings now being erected did not, he considered, meet the actual wants of the case.

Mr. Thomas Blashill replied to some points in the observations of Mr. Carroll, and concluded by moving a vote of thanks to the chairman, pertinently and pointedly alluding to his long services in the direction that was meeting their attention that evening.

Mr. Thomas Drew, R.H.A., of Dublin, seconded the resolution, and spoke of the spirit of social and sanitary progress that was now animating the people of both countries. He alluded to what was about being done in his city, and paid graceful tribute to the services of the chairman, saying that Mr. Godwin's name was well known and respected in Dublin.

The chairman replied to the vote, taking occasion to briefly remark upon some objections raised by Mr. Fowler during the discussion as to particular schemes. The chairman considered that ornament should be sacrificed to give good rooms. He condemned

one-roomed dwellings. Did not think that Mr. Haywood's method of letting the working classes build for themselves a right one, as many of them did not understand what was absolutely needed for the purposes of health. He thought the question of improved dwellings should not be looked at from a purely commercial point of view, and concluded by hoping that the Conference now being held would be fruitful of good and great results.

The meeting immediately after broke up, a few dozen members and visitors remaining in the room a short time to scan the plans of the various buildings alluded to during the afternoon discussion.

LECTURE BY MR. EDMUND SHARPE, M.A.

Part of the programme for Tuesday was a lecture by Mr. Edmund Sharpe, M.A., before the Architectural Association, on the "Architecture of La Charente," illustrated by drawings made during the last excursion of the association. This lecture took place in a large hall, Castle-street, Oxford-street, at 7.30 p.m., and was attended by a large number of architects, members of the Institute, the Association, and the provincial visitors. The walls were hung with upwards of 200 drawings—plans, elevations, interiors, ornamental details, &c.—of mediæval buildings, all well executed, the work of members of the Architectural Association who accompanied Mr. Sharpe, who acted their faithful guide and cicerone in France as he did on former occasions in England.

Mr. Quilter, the president, occupied the chair, and in introducing Mr. Sharpe said his task was an agreeable one, as the lecturer scarcely needed any introduction, being so well known and appreciated. He alluded to Mr. Sharpe's past labours at home and abroad in connection with visits of the association, and concluded by pointing to the results upon the walls, for which they were indebted to the active labour and companionship of their lecturer that night.

Mr. Sharpe, who was received with a hearty greeting, proceeded at once with his subject, first describing the building and plan of St. Sophia, Constantinople, and tracing its history and influence as a building, and as to its serving as a model of masonic and domical construction for later and mediæval architects. Next followed particulars about St. Mark's, Venice, said to typify the former; and St. Front, Perigieux, the latter typifying St. Mark's. Many peculiarities and similarities of construction, classic and mediæval, were traced, one derivable from another.

For upwards of two hours Mr. Sharpe continued to describe the architecture of La Charente, illustrating his subject by the numerous drawings upon the walls. The lecturer was listened to throughout with the greatest attention, and to the evident delight of many students of architecture. We ourselves consider it was a rich treat, and would fully repay the trouble of a long journey to listen to it.

Mr. Sharpe's lecture, to be fully enjoyed, should have been heard; and it would be difficult to do justice to the lecturer unless we accompanied his descriptive account with illustrations. During the course of his lecture Mr. Sharpe paid warm recognition to the services of Mr. Arthur Hill, of Cork, and characterised him as not only a good archæologist, but a thoroughly genial Irish gentleman.

At the close of Mr. Sharpe's admirable lecture, Mr. Quilter, President, made a few remarks, and was followed by Professor Donaldson, who, in concluding, moved a vote of thanks to the lecturer for his long and constant services to architecture and its students. The vote was seconded by Mr. Penrose, surveyor of St. Paul's Cathedral, and supported by Mr. Phené Spiers, who however, differed in some points with the views expressed by the lecturer anent domical construction, pendentives, &c.

Mr. Roger Smith thought the difference of opinion between Mr. Sharpe and Mr. Spiers was merely difference of words instead of realities.

Mr. Sharpe, in replying to the vote of thanks (which was passed with acclamation), said it would be affectation on his part to deny how pleased he was at the warmth with which his efforts to serve the interests of the profession had been received.

The meeting then separated.

THIRD DAY.

On yesterday, at 2 p.m., a visit was made to Messrs. Cubitt's workshops, yards, &c., Gray's-Inn-road, where a party of architects were shown over all the departments of this old-established London building firm. Appliances and wood-working machinery and various other appliances and processes of a cognate nature were explained to the visitors by one or more of the firm.

At the evening meeting of the Conference, held at the rooms of the Institute at 8 p.m., papers were read by Mr. Burges, Fellow, on "The Importance of the Study of Greek Art and Literature to the Practice of Gothic Architecture;" and by Mr. R. P. Pullan, Fellow, on "Greek Art, illustrated by its Monuments." The chair was occupied by Professor E. M. Barry, R.A., Fellow.

Pressure on our time and space, and being obliged to publish while the Conference is little more than begun, renders it impossible for us to give more than a summary of the opening proceedings.

The Institute dinner takes place to-morrow at St. James's Hall, Charles Barry, F.S.A., President, in the chair.

ARCHITECTURE AT THE BELFAST INDUSTRIAL EXHIBITION, ULSTER HALL.

CONTRARY to the usual custom in such exhibitions, Architecture is very fully represented on this occasion, which, we have been informed, arose more or less from an invitation given by the committee of the exhibition to the Belfast Architectural Association, that they should be represented thereat. In accordance with this request, a selection was made of the principal works exhibited at the association's annual meeting on the 1st of May, and these form the great majority of the works now on view—constituting, in fact, a section by themselves in one of the balconies of the Large Hall. Some of the works, however, which were conspicuous at the annual meeting do not now seem to be forthcoming, for what reasons we know not.

Several of the most striking architectural works in this exhibition form separate contributions, and are hung in the Minor Hall amongst the general collection of oil and water-colour paintings. The chief of these are the three drawings of Mr. W. H. Lynn, R.H.A., of the Houses of Parliament, Sydney; Chester Town Hall; and the Carlisle Memorial Church. All these fine works have been exhibited and criticised on previous occasions, and have gained for their author a world-wide reputation: their merits need scarcely be discussed here; but it strikes us, in looking over the towers and spires here represented, that in the majority of cases Mr. Lynn shows a tendency to an over florid treatment by crowding them with angle-pinnacles and lucarnes, thus neutralising the bold simplicity of outline by which the remaining portions of all these designs are characterised. The only other drawing in the Minor Hall which we need notice is Mr. Lanyon's fine drawing of his design submitted in competition for Carlisle Bridge, Dublin, which was awarded the second prize on that occasion.

On entering the balcony of the Large Hall, where the majority of the works are exhibited, the first drawing seen is one by

Mr. T. M. C. Johnston, a copy of the etching published in the *Building News* of Mr. Waterhouse's Town Hall, Manchester. This is stated in the catalogue to be one of those which gained the prize offered by Sir Charles Lanyon for the best pupil's copy of an architectural drawing, and shows considerable merit. But in pupils' work accuracy in outline and perspective is the first thing to be aimed at—shading and accessories may be safely left to come after; and Mr. Johnston has spoiled an otherwise creditable drawing by carelessness in these particulars. The incorrect perspective of the principal arches throughout is especially noticeable, where a few minutes' extra attention would have produced a far more satisfactory result.

Immediately above this are two photographs, contributed by Messrs. Young and Mackenzie, representing the Watt's Endowed Schools, Lurgan, and semi-detached Villas, for J. Usher, Esq. The general grouping and "motif" of these works is very good, but we think the attempt at originality in the lantern on summit of tower-roof in the schools is not very happy. There are also in both some incongruities of detail which might be remedied with advantage.

We next come to the Magheramorne Schools (Mr. S. P. Close, F.R.I.A.I., architect), represented by an etching in that gentleman's well-known vigorous but rather conventional style. We observed in the rendering of one or two features something a little like "cookery"—just enough to give a picturesque air of incipient decay to the whole building, an example only dangerous to follow when a draughtsman incurs the risk of learning to prefer texture to truth of outline and picturesqueness to proportion.

Messrs. Preston's Linen Warehouse (John Lanyon, F.R.I.A.I.) is hardly done justice to in a rather weak pen-and-ink drawing, which has failed to catch a certain mass and dignity present in the building as erected. The square angle turret springing off corbelling, with high-pitched ogive roof, is rather too picturesque to be altogether in harmony with the somewhat monotonous rendering of Italian of the rest of the design.

Next is an effective drawing* of Mr. Batt's new lodge at the Botanic Gardens, a one-storey brick building in the so-called "Victorian" style, with no very glaring faults except a bourgeois floridness of treatment which almost always takes well with the general public.

A small sheet of measured drawings of Bun-na-Maige Abbey, Ballycastle, county Antrim, by F. W. Lockwood, represents one of the smaller class of conventual buildings whose plan has been modified to suit the necessities of a wild and only partially civilised locality. Kilclief Castle, by the same, is a small but spirited pen-and-ink sketch.

Next is a coloured drawing of the premises in High-street for Messrs. R. Patterson and Co., only part of which is at present built (W. H. Lynn, R.H.A., architect). The colouring is rather too bricky for Dumfries stone, and we suspect is not Mr. Lynn's. The pediment in the centre of the first floor would, we think, be better dispensed with. The portion of the building already carried out is no improvement on the original design, the central stone pilasters of shop front as shown here being omitted in execution, leaving

nothing but a plate-glass support for the superstructure. The attenuated pilasters which serve as mullions for the two upper storeys are also, we think, scarcely happy. There is, however, a good deal of refinement, at any rate nothing "loud," in the treatment of the design.

The Study for a Chancel, by Mr. T. Hevey, F.R.I.A.I., is a rather heavily-coloured design. It has been exhibited before, and is, we suspect, an early work of the author's, showing but little of the airy gracefulness which his designs and drawings generally possess. In this respect nothing can well exceed his competition drawings for St. Mary's Catholic Hall. They are deserving of all praise, and it is to be greatly regretted that the managers of that competition allowed the opportunity of giving Belfast such a building to slip past them. The successful design for this hall, recently completed and opened, hangs near (Mr. Alexander M'Alister, architect), and calls for little remark. It is one of those designs which find favour with boards as being *safe*, respectable, and economical.

Just here, we find, hang the prize drawings for the "Vere Foster Town School Competition," but they are so "skied" that it is almost impossible properly to make out their arrangements. The first prize design (Mr. Johnston) is drawn in the G. Freeth Roper style, so familiar to readers of the *Building News*; the merits of the planning we can say little about, but we think we saw windows in the stairs (which are also very narrow) leading to the upper range of school-rooms. The second design (Mr. Braddell) appears a common-sense, workable design; but the three sets are hung so awkwardly that it was quite impossible to study them.

Some pen-and-ink drawings of Donegal Castle, and Clones and Devenish Round Towers, also are so hung as scarcely to be seen, and, in addition, one of them is hung over a window. As far as we could see, the drawing of the buildings is creditable, but the accessories are somewhat weak and scattered.

Two large views of the Convalescent Hospital, now being built near Cave Hill (Messrs. Thomas Jackson and Son, architects), are well placed. There are some weaknesses in the pen-and-ink drawing, especially of the accessories; but the design will obviously form a picturesque and striking group, the key-note of which has evidently been struck by Mr. Hevey's Children's Hospital—a vigorous and original treatment of French Gothic, built some years ago, and to which the group of new buildings is united.

Mr. S. P. Close has three very clever etchings of Kirkby Ravensworth Church, Yorkshire; Bawne Bella, near Carrickfergus; and Carrickfergus Castle. The latter especially shows such precision, and withal grace of handling, that we are unwilling to say a word against it; but surely the artist has taken very considerable licence with his subject. Mr. Close also exhibits a photograph of his McGarel Buildings, Larne—a fairly meritorious Gothic structure, but with the pointed roof or spire on the tower spoiled by a continuous row half way up of small dormers or lucarnes.

Mr. Lynn's Mansion, Glasslough, for Sir John Leslie, is the best thing in this part of the room. The quiet unpronounced style in which the accessories are coloured is evi-

dently the correct way for treating architectural drawings; and the design—especially the grouping of the wings, conservatories, terrace walls, &c.—is masterly in the extreme. There is always an absence of effort, an air of power, about Mr. Lynn's work, which speaks the great artist.

The etching of new Blarney Castle, exhibited by Mr. Lanyon, shows a Scottish Baronial building, with rather too many gables and turrets. Ballylena Castle, County Donegal, by the same gentleman, is a very heavily-coloured perspective of a building in the same style as the last; the style itself has many excellencies, but architects in reproducing it should tone away its faults instead of magnifying them.

Messrs. Young and Mackenzie have a neat etching of a warehouse in Victoria-street; the building is brick, and the style debased Flemish Gothic. Architects should be reminded that French types of that period are a hundred per cent. better than Flemish ones. The same architects exhibit photographs of some very good carved detail from the doorway of Fitzroy-avenue Church; also a photograph of houses in Clifton-street, showing a praiseworthy and successful attempt to introduce terra-cotta, which deserves imitation: some trifling defects of detail may well be overlooked. They also send a photograph of Mrs. Byers' school—a stone building in a useful form of Gothic, which has many good points about it. We wish we could say as much for the villa on the Antrim-road, represented in the adjoining photograph.

Mr. Hevey is further represented here by two vigorous designs for the Humphrey Memorial Clock Tower and Fountain, Strabane; and by his designs for St. Patrick's Church, Donegal-street, which show a bold plan, fairly well adapted for the purposes of modern worship; the style is earlier, and somewhat more massive than many of Mr. Hevey's works. His handsome drawing of the new Catholic Church, Holywood, should also be noticed.

A large drawing by Mr. Thomas Duff, one of the pupils who gained Sir C. Lanyon's prize, concludes the list. Mr. Duff's work is a very carefully-executed copy of Mr. Norman Shaw's New Zealand Chambers from the *Building News*. We think, perhaps, that pupils somewhat over-estimate their powers when they attempt to tackle drawings like Mr. Shaw's; but, at any rate, the effort to do so is bracing, and Mr. Duff may congratulate himself on having done no discredit to the Belfast Architectural Association, under whose auspices this work was done.

There are a number of School of Art drawings of a semi-architectural character; but South Kensington ideas of architecture do not entirely coincide with those of the profession, or Miss Thompson's Design for a Grille would not have been placed by those authorities before that of Mr. Lane's. Mr. Lane designs with a perfect knowledge of his material and its capabilities; Miss Thompson, with a knowledge of drawing merely. Had architects been the judges, the verdict would have been reversed. Mr. Lane's Drinking Fountain is good; his Church fairly up to the School of Art standard.

There are some good designs for architectural decoration by Mr. James Ward. There are also a large number of building and decorative appliances, which it is beyond both our scope and time to treat of at present.

* Published in the *IRISH BUILDER*, May 15th, 1876.

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

THE development of Irish fisheries has been a question that has often cropped up of late years, and at one time Government grants were solicited, and at another the formation of companies advocated independently. The Irish Parliament did something to promote Irish fisheries, but several of the acts of the English legislature, from their very restrictive nature, directly tended to the crippling of the Irish fishery industry. In 1777 an act was passed which prohibited the tanning of nets and lines for fishing purposes with bark, and rendered compulsory the smearing of them with tar and oil. The colour and smell of course scared the fish, and hastened the decay of the nets. This was done at a time when the English fisherman was allowed to tan his nets with oak bark, which process preserved them for many seasons. Several other acts, from the time of Charles II., encouraged the efforts of fishermen of the sister kingdoms, while in relation to Ireland there were many prohibitions. Bounties were granted by the British legislature in 1764, and again in 1819, but were withdrawn in 1830.

The west and north-west coast of Ireland was for centuries the principal fishing-ground of the Dutch. In the days of their naval superiority—or, say, in 1615—the Dutch had 2,000 fishing vessels, with 37,000 men; and the produce of their fishing for one year previous is stated to have amounted to £1,759,000. In 1618 they increased to 3,000 vessels and 50,000 men, with 9,000 vessels to transport the fish to various countries. If those employed in the carrying and sale of fish be counted, the Dutch trade must have afforded employment to 150,000 men. The Irish coasts from the earliest times have been famous grounds for fishing, and even in the ninth century we read in Ninnius that the pearl fishery of Ireland was a valuable resource. The abundance and beauty of Irish pearls are described by that English writer.

A writer in the *Anthologia Hibernica* for 1793 contributes "Some Observations on the Fisheries of Ireland, and the establishment of a National Fishing Company." He speaks of the immemorial fishing banks extending from the coast of Galway in an oblique direction to Newfoundland as being well known for centuries, and resorted to by the Danes, Norwegians, and Icelanders. The French as well as the Dutch and others named at different periods made use of it, as did the Cornwall and Manx men, though the eastern or north-eastern coast is more frequented by the latter fishermen. The following is the suggestion of the writer in the *Anthologia*:—"Such an establishment, however, would require an extensive capital, and can never be attempted with any prospect of success without the establishment of a national fishing company, with a fund of upwards of 150 thousand pounds guaranteed by the nation. For which purpose subscriptions should be opened of from 50 to 1,000 guineas, and from which dividends in course of time would be made according to the stock subscribed."

The difficulties that lay in the way, and which were pointed out by the above writer in 1793, do not exist to nearly the same extent now. Many new harbours are constructed, others improved, railway communication exists over the island and packet communication around the coasts, and little difficulty exists on the head of conveyance of produce to the best markets. It is needless to go into details, but it may be remarked that there is still room for the establishment not only of one large national fishing company, but of a number of small ones, at many of our maritime ports. Such companies, of course, would give rise to new industries—boat and smack builders, coopers, rope makers, sail makers, twine workers, net makers, salt boilers, and a number of other trades connected with the catching, curing, and disposal of fish for home use or exportation.

Of late years, through the Commissioners

of Public Works in Ireland, a something has been done by the advancement of loans and in the construction and repair of fishing harbours; but still our Irish fisheries are, as a whole, in a most backward state. The legislature could do much, but capital and native enterprise could do more. Sooner or later, the work will be done by the capital of speculators outside this island, if not by capitalists in our midst. The development of our fisheries, whether looked upon as a commercial enterprise or strictly in view of the food question, offers great inducements and suggests important considerations which cannot be much longer ignored.

Some serious, sensible, and eccentric men at different periods have built curious houses for their residences. Architects, builders, and craftsmen have done the same notwithstanding the knowledge of their professions. They built to please others when employed, but they built to please themselves when they were their own clients. We could record a number of curious examples of artistic and constructive taste on the part of professional and mechanical men, but for the present we will give illustrations of the characteristics of a gentleman of wealth in the last century in Ireland—one Thomas Mathew, of Thomastown, in the county Tipperary. In Sheridan's "Life of Swift" some amusing anecdotes and traits of character are given of this rather eccentric but most hospitable Irish gentleman. We read that Mathew's house had been chiefly contrived to answer the noble purpose of hospitality which he intended to maintain there. It contained forty commodious apartments for guests, with suitable accommodation for servants. Each apartment was completely furnished with every convenience that could be wanted, even to the minutest article. When a guest arrived he showed him into his apartment, saying, "This is your castle; here you are to command as absolutely as in your own house. You may breakfast, dine, and sup here whenever you please, and invite such of the guests to accompany you as may be most agreeable to you." He then showed him the common parlour, "Where," he said, "a daily ordinary was kept, at which he might dine when it was more agreeable to him to mix in society; but from this moment you are never to know me as master of the house, and only consider me as one of the guests." In order to put an end to all ceremony at meal time he took his place at random at the table, and thus all ideas of precedence being laid aside, the guests seated themselves promiscuously, without any regard to difference of rank or quality.

There was a large room fitted up like a coffee-room, where a barmaid and waiters attended to furnish refreshments at all times of the day. Here such as choosed it breakfasted at their own hour. It was furnished with chess boards, backgammon tables, newspapers, pamphlets, &c.—in all forms a city coffee-house. "But the most extraordinary circumstance," writes Sheridan, "in his whole domestic arrangements was that of a detached room in one of the extremities of the house called a tavern. As he was himself (Mathew) a very temperate man, and many of his guests were of the same disposition, the quantity of wine for the use of the common room was but moderate; but as drinking was much in fashion in those days, in order to gratify such of his guests as had indulged themselves in that custom he had recourse to the above-mentioned contrivance, and it was the custom of all who loved a cheerful glass to adjourn to the tavern soon after dinner and leave the more sober folks to themselves. Here a waiter in a blue apron attended (as was the fashion then), and all things in the room were contrived so as to humour the illusion. Here everyone called for what liquor he liked, with as little restraint as if they were in a public-house. The midnight orgies of Bacchus were often celebrated here the same as in city houses, but matters were so arranged that the mirth and noise did not

disturb the other inmates of the house who might be reposing."

But we must summarise. Games of all sorts were allowed, under restrictions, however, so as to prevent gambling, as the intention was to afford amusement to guests instead of facilities for gambling. There were two billiard-tables and a large bowling-green, and ample provision for outside sports. Fishing tackle of all sorts were provided, a variety of guns, a pack of buck hounds, another of fox hounds, and a third of harriers. Twenty choice hunters were kept for the use of those not properly mounted for the chase. Mathew's income was about £8,000 a-year, at that time worth double the sum at periods since. His house was surrounded by 1,500 acres of fine land, and the latest improvements in cultivation and gardening were adopted.

Notwithstanding Mathew's great hospitality and seeming extravagance, he was a strict economist. He kept, we are told, a complete check over all expenses, and each day saw the accounts of the preceding made up. The servants, though many, were well paid, and any act of dishonesty on their part resulted in their discharge. Mathew's farming and gardening operations, of course, furnished his house with most necessities, except groceries and wine, and though a large amount of the latter was drunk by the guests, it is said that he had such checks upon his domestics that they could not purloin a bottle without immediate detection. What did not come under his own notice was left in the hands of faithful stewards, so that if the owner went from home for several days, matters went on as regular as if he was present.

We could cite much more, but must stop by saying that perhaps no mortal before or since adopted such a singular mode of living and treating his guests as Thomas Mathew, of Thomastown, Swift once visited Mathew at his mansion, intending to stay a fortnight, but the witty Dean so pleased his host that the fortnight was prolonged into four months.

In Thomas Bell's Essay on the Gothic Architecture of Ireland (1829), there is an anecdote recorded of John Smyth, the sculptor, son of the more famous Edward Smyth. Speaking of the architecture of the south transept of St. Patrick's Cathedral which exhibits a mixture of circular and pointed arches, Bell goes on to say:—"It is ornamented with some corbel heads which I had often regarded with admiration as superior in character to anything I could conceive of that age. I was expressing my sentiments on this subject one day, in conversation with Mr. John Smyth, an eminent sculptor, who, after giving me a hearing, began to laugh at my mistake. 'Those heads,' said he, 'of whose merit you speak in such exaggerated terms, were my own work. I was one day erecting a monument in the cathedral, when a stucco man employed in the chapter room, begged I would model one of the corbels he was then at work on. I accordingly acceded to his request, and the result was the two heads, which have excited so much of your attention, as being the work of our ancient artists. Many professional antiquarians,' continued he, 'have been led astray in a singular manner and by means as simple.' But there are two or three heads in the great aisle of the nave equally curious in their style: they certainly, I rejoined, are not modern. Of their antiquity either (answered Mr. Smyth) I cannot say much. The heads truly owe their origin to former times; but I must acknowledge that my profane hands have contributed to their regeneration. I was finishing the little tablet monument of Mr. Boardman, when Dr. Handcock requested that I would touch with my chisel 'the mutilated countenances of yonder old gentleman,' pointing to the stone heads. The plastic stones, as if in obedience to this wish, like the fabled palace of Aladdin, assumed their present form; though I ought, perhaps (added he), to be ashamed of my presumption in thus attempting to restore the antique.' I record this anecdote," adds Mr.

Bell, "lest any future antiquary should be led into a similar error, when such an easy explanation would be beyond our reach."

How John Smyth's own corbels and those he regenerated with the touch of his chisel fared under the work of general "restoration" that took place at St. Patrick's Cathedral a dozen of years since, we are unable to say. The builder and the architect of the "restoration"—father and son—are now dead, and whether the anecdote in Bell's book met their eyes, who shall say? It is possible that some of the stone carvers engaged in the "restoration" of St. Patrick's Cathedral took Smyth's original work for their model, and re-restored once more the defaced antique on the lines of the modern. Whether Mr. Street has preserved any modern-antique work in his restoration of Christ Church Cathedral we are not prepared to say at present; but we believe that during the last and present century, at different times, there has been a "touching up" of carvings at the hands of monumental artists, masons, and others in Christ Church Cathedral. H.

NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.*

WITH such theatrical rivalships as existed in Dublin throughout a great portion of the eighteenth century, it was natural that several good actors in peculiar lines would make their appearance and establish their fame. Actors and actresses, even merit apart, have their partisans; and the pets of the play-going Dublin public have been many. Good and great actors and actresses, in sooth, have walked the Dublin Stage for long years, sustaining their reputation until the last; while others, with less stamina or good fortune, or outliving public favour, have dropped out of public view, although their abilities were of no common order.

Throughout the eighteenth century several actors and actresses have performed on the Dublin boards, of whom there are but scant notices, and others whose names and little more are known. Some continued on the Stage for a number of years; others, again, after a brief experience of the joys and sorrows of theatrical life, retired, and it was well for some of them they had a something to retire upon.

The old Smock-alley theatre and the new contributed many a good actor and actress to the theatrical roll of fame, as also did Aungier-street and old Crow-street theatres. Several of those who climbed the highest rung of the ladder in the sister kingdom made their first appearance on the boards of Dublin theatres; and, again, several of those who were English-born made their reputation under Dublin managers and before Dublin audiences, and finally went back to their own country, and maintained it till the end.

But to return. The new Smock-alley Theatre was opened on December 11th, 1735, with the comedy of "Love makes a Man, or the Pop's Fortune." Among the company some will be recognised who subsequently made a name. The caste of the play was as follows:—Don Antonio, by Mr. Dash; Don Charino, Mr. Bourne; Carlos, Mr. Ward; Don Lewis, Mr. Cashel; Don Duart, Mr. Wetherelt; Clody, Mr. Sparks; Governor, Mr. Redman; Sancho, Mr. Barrington. The lady characters were—Elvira, by Miss Boucher; Louisa, Mrs. Ward; Angelina, Miss Barnes. Some of the above we have already noticed. Robert Wetherelt belonged by birth to the sister kingdom, but in his later years was connected with the Irish Stage. He was born in 1708; his father and mother, we learn, belonged to a country company at Stamford. Wetherelt's early years were in connection with the Drury-lane Theatre, from which he passed to the Goodman's Fields Theatre, where he married a sister of Delane. He came to Dublin on invitation, and his first appearance was in the above play at the opening of the new theatre.

* See ante.

We read that his acting gave general satisfaction. From this period until his death in 1743, Wetherelt remained in Ireland. He died at the early age of 35, and was buried in St. Andrew's Churchyard in this city, much regretted by the Dublin public, who "esteemed him as one of the best actors of his time." Oliver Cashel was of Irish birth and parentage, and his theatrical career commenced about this time. Hitchcock says of him—"His figure was agreeable and his voice excellent, so that some years afterwards he played Captain Macheath with such success at Covent Garden as to occasion it to run for many nights after it had lain dormant for many years." Cashel was one of our actors who met his death in theatrical harness upon the stage. While playing the part of Frankly in the "Suspicious Husband" at the Norwich Theatre he was struck speechless. Carried from the stage, and meeting with every medical assistance, he died notwithstanding in a few hours. Of Mr. Dash and Mr. Bourne we are told they were two good comedians, particularly the latter. Mr. Redman later on played for several years on the Covent Garden boards. "Besides the above," writes the author we have already quoted, "there were a Mr. Charles Morgan, an actor of great merit in low comedy; Mr. John Morris; Mrs. Bullock, natural daughter of Mr. Wilkes, a very good actor; and several others." The new Dublin theatre, it will be seen, brought out several actors and actresses.

A word as to the new theatre at this time. Smock-alley re-built had certainly the advantage of Aungier-street in respect to position, though the latter retained its authority as a theatre royal. Smock-alley was opened by a licence from the Lord Mayor, granted to Lewis Duval, the manager, under whose direction it was re-built. During the season the management of the two rival theatres worked hard, but not with any great profit, and at the close the Aungier-street company proceeded to Carlow, Cork, and Limerick, while Duval's company went northward, and opened at Belfast. At the latter town, on July 16th, 1736, the opening play was the comedy of the "Stratagem," acted before the Earl of Antrim, lords Hillsborough, Clothworthy, Skeffington, and others of the nobility and gentry of the district. On the return of both companies to Dublin, the rivalry continued, Duval being the most successful. The "Beggars' Opera" was put upon the stage for the purpose, we read, of introducing a Mrs. Reynolds, who was then famous in the character of Macheath, with a Mrs. Hinde in Lucy. Mr. Hinde was the original in the song of Mad Tom in this country, a part which gained him great applause. The pantomime of the "Harlequin Spaniard" was played for several nights at this time at Smock-Alley, and brought good houses.

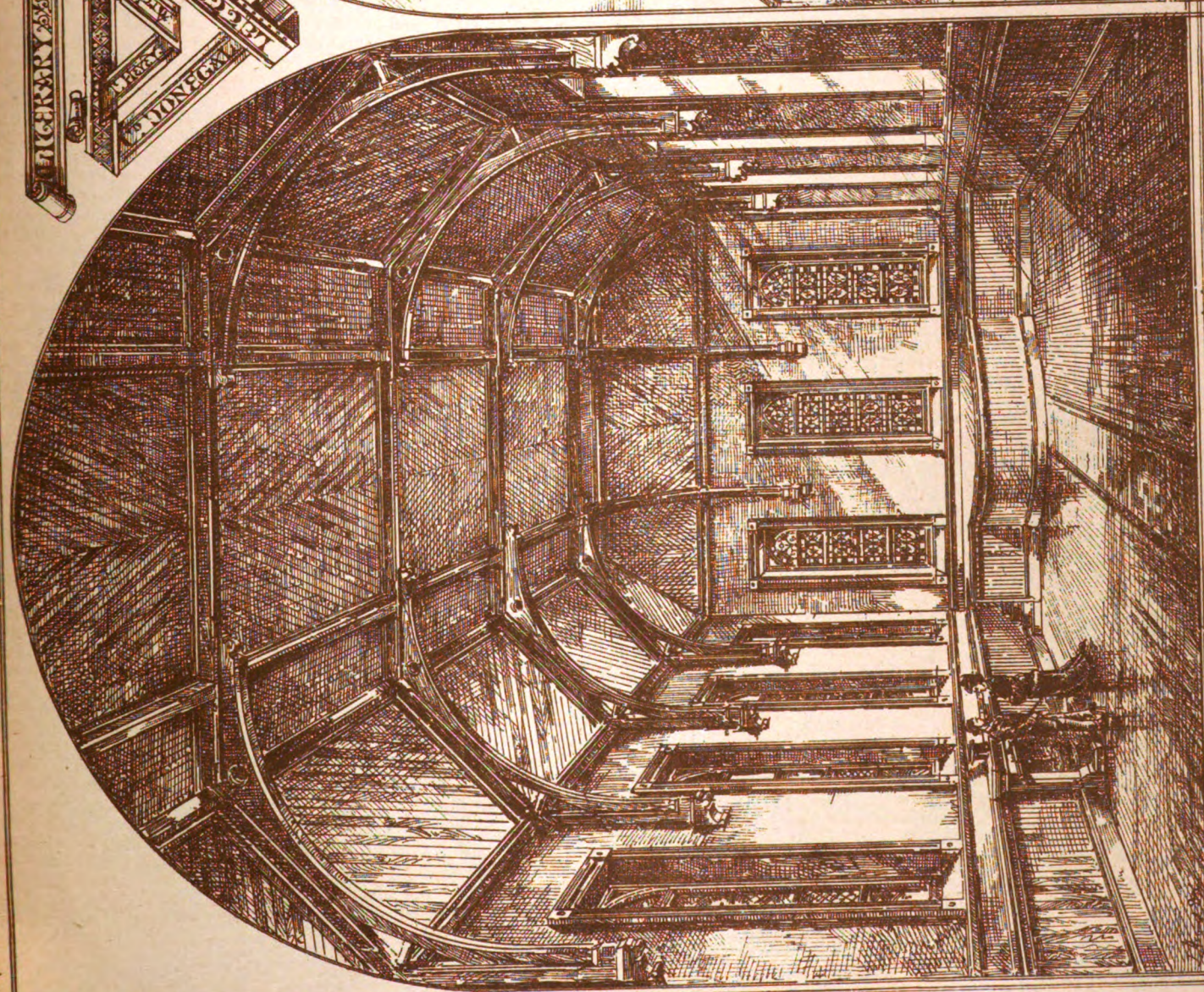
We now arrive at the first introduction of Havard's play of "King Charles the First" on the Dublin stage. It was for some time performing in London with success, and both the Dublin theatres were anxious to put it before the public here. Duval succeeded in bringing it out first, and his industry was rewarded with crowded houses. The author of this tragedy was a native of Dublin, where he was born in the year 1710. Havard's father was a wealthy vintner, and intended his son for the medical profession. Young Havard, however, was stage-struck, and, casting aside his surgical studies, we find him on the boards of old Smock-alley Theatre before the age of twenty, acting in several characters with increasing applause. He left Dublin in 1730, making his way to Goodman's Fields Theatre and offering his services to Giffard, the manager of that theatre. There he was engaged at a low salary, and eventually succeeded in gaining the esteem of the manager and the public by his good sense.

Havard's first essay at theatrical authorship was his tragedy of "Scanderbergh," and as a youthful production it possessed merit. His friendship for Mr. Giffard prompted him to a more ambitious effort, and in 1736, when

Giffard was rather in poor circumstances, Havard produced his play of "Charles the First." While writing this play we have the following anecdote recorded of Havard:—"Such was his known indolence and love of ease, Mr. Giffard insisted upon the power of keeping him under lock and key till the work was completed. This the good-natured author consented to, and under close confinement he remained till the piece was produced." We have many opinions recorded respecting Havard's play as a piece of dramatic composition, as well as its effect when acted upon the stage.

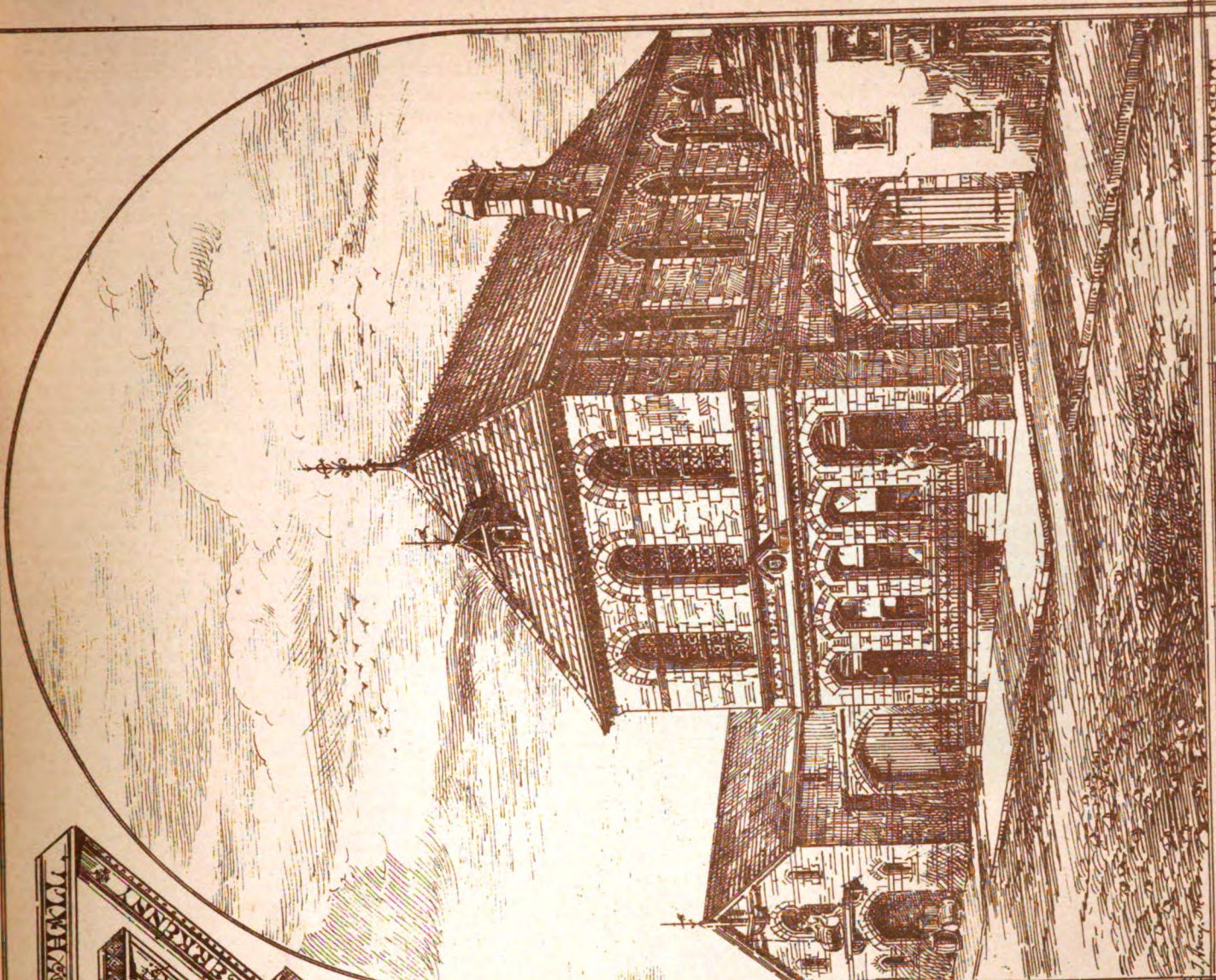
Hitchcock says it must be confessed "that the language of the play is rather stiff and metaphorical, however the characters are well-drawn and exhibit faithful historical portraits of the men and manners of the times. Peculiarly happy in the choice of his subject, it was impossible even for moderate abilities not to work up such interesting events to some advantage. Mr. Havard had much merit in this respect. Few, possessed of the least spark of sensibility, can read the historian's relation of the unfortunate prince's taking his last leave of his children without the utmost emotion. On the stage its effect was prodigious." Davies, who had a good knowledge of the stage, and of actors and actresses, remarks—"Never were tears so plentifully shed as at the mournful separation of Charles and the young princes." Dr. Doran, in his work "Their Majesty's Servants," writes—"If power may be judged by effect, Havard was a powerful writer, for his 'Charles the First,' when acted at York, excited such painful emotions in a young lady named Terrot that she died of it." Sundry other opinions might be quoted from various sources respecting the tragedy of "Charles the First." Havard having obtained a moderate competence in connection with the stage retired, as he was nearing his sixtieth year, carrying into private life the good-will and esteem of many.

Reverting to the state of the two Dublin theatres, 1736-7, it must be written that the prospect was not an encouraging one, and matters were tending in a downward direction. Occasional gleams of sunshine were visible, but the public, on the one hand, appear to have tired of the rivalries, and the managers, on the other, to have lacked judgment in the general get up of entertainments. The finances of both theatres were at a very low ebb, and anything that entailed a large caste was likely to entail a large loss to one or other of the contending parties. With one theatre it would have been otherwise; but where not only two theatres were contending for the mastery, but other minor houses, the patronage that would have been concentrated was distributed, and poor returns dissatisfied all. When the season in the city was over, the alternative for both companies was a country campaign at the races in different parts of the country, and even for this there was a struggle between both theatres. The races of Mullingar, Carlow, Clonmel, and other towns were visited, and we read that there was a vigorous opposition on the head of what company would play at Carlow. The Aungier-street company obtained leave to perform there in August, 1737. In November of this year the two rival theatres were closed for six weeks by order of the Duke of Devonshire, owing to the death of Queen Caroline. This was a rather hard stroke of ill-fortune for actors and managers at the opening of the winter season. Winter or summer seasons at this period in Dublin, as a whole, were not encouraging or profitable. Some few actors occasionally came from London during the summer season, and secured good benefits. In June, 1737, Delane, Hallam, and Bridgewater acted at Smock-alley Theatre, and in June, 1739, Quin, who was at the height of his fame in England, came to Dublin with Mr. Giffard and played for several nights at Smock-alley. Crowded houses were obtained on this occasion to witness their personations of the Spanish Friar and Torrismond, Cato and Juba, Sir John Brute and Heartfree, &c.



INTERIOR VIEW OF LARGE HALL

The City Printing Co. Limited Photo Lith.



EXTERIOR VIEW TOWARD MAIN ENTRANCE

T. Henry F.R.I.A.I. Architect. Belfast.

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Quin's benefit realised £126, then considered a large sum.

In this same year Delane revisited Dublin, accompanied by Millward, and played for some nights at Smock-alley. Both actors appeared in Othello and Iago, Tamerlane and Bajazet, Brutus and Cassius, Orestes and Pyrrhus, and other parts. In July of the same year Woodward performed in Smock-alley for the first time as Sir Novelty Fashion in "Love's Last Shift." Harry Woodward's fame belongs to a much later period than that we are now treating of. Though born in London about the last year of the reign of Queen Anne, he continued on the stage until 1777. Woodward's connection with the Dublin Stage is full of events, particularly the time covered by his partnership with Spranger Barry; but we cannot anticipate these matters here, as we have yet to deal with much that belongs to an earlier time.

LECTURES ON ARCHITECTURE.*

(Continued from page 161.)

IN my last lecture I described most of the public buildings of Pompeii. On the present occasion, our attention will chiefly be directed to its domestic architecture. But, before discussing in detail the plans and arrangements of the houses of private persons, it may be as well to examine the remains of some buildings of a class which serve as an interesting illustration of the habits and manners of the Romans—I mean the public baths.

Visitors to Rome are aware of the magnificence of these edifices, from having seen the splendid ruins of the Baths of Caracalla and Diocletian. Some idea may be formed of the grand scale of the latter from the fact that the great hall was converted into a church of noble dimensions by no less an architect than Michelangelo. This church, which goes by the name of Sta. Maria degli Angeli, is even now among the finest architectural monuments of Rome.

There were many public baths in ancient Rome besides the two great establishments which I have mentioned, and no Roman town was considered complete without its *Thermæ*. There are two public baths at Pompeii. The smaller, or old baths, shown on the drawings on the wall, were excavated in 1824, in a position near to the Forum, and therefore central as regards the city. They are especially interesting, because from their smaller size—as compared with the great Roman examples—it is more easy to understand the uses of the several apartments into which they are divided.

In the capital the bathing had reached to such a pitch of luxury that the buildings seem to have combined the attractions of the bath, the exchange, the theatre, the gymnasium, and even the modern club. The number of rooms in them is so great that it is difficult to feel assured in all cases of their exact original destination. In the old baths at Pompeii the scale was necessarily more modest, and the arrangements there will be found to correspond very nearly with those in daily use among Oriental nations at the present time. In fact, the plan which is now before you is not unlike the buildings which any one may now see at Constantinople or Cairo. The baths were not vapour baths as in Russia, but were warmed by means of flues in the walls and floors, and the temperature was not very high.

The Romans attached great importance to their baths, which were as much a place of general resort as the Forum. A small fee was charged for admission, and different hours or days were allotted to the two sexes in places where a separate establishment for women did not exist.

The bath is an institution of immemorial antiquity. It was well known to the Greeks, and was doubtless borrowed from them by the Romans. Indeed the names of the

various apartments are of Greek origin. Public baths had been multiplied excessively under the empire, and after the rise of Christianity, the *thermæ*, like the basilicas, were often converted into churches, as we have seen in the instance at Rome.

Christianity seems to have looked with disapproval on the public baths, by reason probably of the abuses of them, to which the general corruption of morals had led. A change of life was necessary to the new converts, and a feeling arose that those who had once received the regenerating cleansing of baptism needed no further purification. It was this superstition which gave a reputation for sanctity to habits amongst hermits, monks, and others, which are repugnant to modern ideas, and led by reaction to the maxim accepted by medical science that cleanliness is next to godliness. In Spain, after the conquest of Granada, one of the first acts of the intolerant victors was to forbid to the subject Moors the use of their public baths, and even private bathing was interdicted.

Let us now return to Pompeii, and endeavour to ascertain the probable uses of each portion of the building.

From its central position in the city we may assume that from the value of the site it was not found possible to indulge in any arrangements which required great space. At the same time, we may be sure that everything was provided which was really necessary, and we can thus form a pretty correct notion of what was considered by the Romans to be indispensable in their *thermæ*. It is supposed that, in addition to the public establishments, there may have been other private baths of less importance, especially sea-water baths, as Pompeii was situated on the sea-shore.

The old baths, now under notice, being surrounded by shops, had several entrances from the adjoining streets. These all communicated with an open court, surrounded on three sides by colonnades. In this court was found a money-box containing the fees of the bathers. Seats of stone are found in the portico towards the south, and here were posted the notices or advertisements of the theatres, combats of gladiators, and other matters of public interest. A large recess in one of the sides of the court may have served as a more private retreat for the upper class of bathers, or for refreshments. It is well placed for such a purpose, as it could readily be served by attendants on duty in the baths generally. The central courtyard was planted with flowers and shrubs, and had possibly a fountain in the centre. In summertime, an awning over the whole would exclude the rays of the sun, and afford a pleasant shade and coolness. Some have supposed that this outer portico was a waiting-room only for persons about to bathe, or for slaves in attendance on their masters. Looking, however, to the small size of the other apartments, I think it is more probable that it served also as a waiting or cooling room for those who had bathed rather than for those only who were about to do so.

Having entered by one of the passages, the bather left his clothes in the *apodyterium* or *spoliatorium*, having deposited his outer garments, and probably his sandals, in the waiting-room. The *apodyterium* probably served not only as a room for undressing, but also as a cooling-room for those who preferred it to the outer court. There are niches in the walls; these may have contained the clothes and property of the bathers, which were placed in the charge of slaves or attendants, liable to the penalty of death in case of theft. The chamber was warmed by a large brazier of bronze, which was discovered in it, and which was probably convenient for warming clothes and the linen used in the bath. In the outer room, holes exist in the walls, and it is conjectured that wooden poles were inserted in them to carry the towels and linen while drying, just as we see in the Eastern baths nowadays.

From the *apodyterium* access is obtained to the next chamber, the *caldarium* or *suda-*

torium. This was the hot room, and at Pompeii was probably used for various purposes, for which in larger structures separate chambers were provided. The floor is furnished with flues for heating, and the bathers probably wore wooden shoes or pattens. At the upper end there is a circular basin or fountain, from which cold water might be obtained for the head; and at the other end of the room is a plunge-bath of hot water. Couches round the walls, or thick mattresses on the floor were probably arranged for the convenience of the bathers.

Having left the *sudatorium*, the bathers, or those of them who cared to do so, could pass into another room, where cold water was found. This chamber was constructed with a basin in the centre for plunging or swimming, called the *natatorium* or *baptisterium*. The most accepted name for the chamber itself is the *frigidarium*. You will notice that it is so placed that it might be conveniently used by those who did not wish to enter the other parts of the bath, while it might be also available for bathers who had already done so. This is quite consistent with the habits of the East; for in Oriental baths generally the use of cold water is not encouraged, and forms no part of the regular course of bathing.

The furnaces for heating are placed at the side; and adjoining them are some chambers of irregular shape, the use of which has been much disputed. Sir W. Gell has termed them the women's baths, but others have thought that they are only the old or original buildings which have been superseded in course of time by those which I have just described. They are very inferior to the latter, in size, style, and decoration, and do not call for detailed description.

Much surprise has often been expressed at the small size of the building we have been discussing, and recent excavations have shown that it was not the principal bath of Pompeii, a more extensive structure having been discovered near to the theatres. These are called the Great or Stabian baths, and are very interesting architecturally. The arrangements are very similar to those in the smaller baths. You will see them marked on the map, and they are supposed to have been built about 150 years before the destruction of the city.

Considering the bathing propensities of the Romans, it is possible that further excavations may even yet bring to light other buildings of a similar nature. The men used the public baths more than the women, and, it has been said, even passed half their time in them. It does not necessarily follow, however, that this was from choice; for we shall see presently, in treating of the private houses, that these were nearly destitute of warmth and comfort—matters for the want of which even the charms of a Neapolitan climate might not compensate. In their *thermæ*, on the other hand, the Pompeian people had an agreeable place of resort, well planned, covered, and completely warmed, and the whole available to them at a moderate expense. The same causes which lead many a poor man among ourselves to the comparatively comfortable public-house, had doubtless their influence in olden days in attracting the lower classes to the public baths, which formed so important a feature in the every-day life of the Roman people.

The architectural design of the building is pleasing, and the construction solid and good, far more so, indeed, than is common with Pompeian remains. The various rooms have arched roofs, and the *natatorium* is domed. The door to the hot room was set in jambs slightly inclined, so as to cause it to shut by its own weight.

The *apodyterium* is the chamber which is most highly decorated, and this is reasonable, because the bathers would spend more time in this room than in the others, and as it was only heated to a moderate temperature there would be no vapour to interfere with the decorations. The pavement was of mosaic, composed of white tesserae with black borders. At the springing of the arched

* Third lecture. By Professor E. M. Barry. Delivered at the Royal Academy, London, on 9th of March. See ante.

roof there was a bold projecting cornice, supported by a row of figures of the Caryatid character, with their arms upheld. Some have supposed these figures to represent fawns. Between the figures were the niches or recesses to which allusion has already been made, and which served as receptacles for the clothes of the bathers. The vaulted ceiling was panelled with ornaments and figures, delicately executed in low relief, in stucco. The caldarium was also vaulted and decorated, but the construction and ornament were both simpler than in the apodyterium. Although the bath was a hot-air bath, there must always have been a considerable quantity of vapour from the water used in it. This would not only have destroyed any elaborate ornamentation, but would have rendered it difficult to see and appreciate any but simple details. In the cool rooms windows exist for light, and there are holes in the vault of the caldarium for a similar purpose. This is in accordance with the custom at the present day in Turkish or Eastern baths. The holes were probably covered with glass or shutters.

Taken altogether, these baths are among the most interesting ruins in Pompeii, and are a fair indication of the architectural taste of its former inhabitants.

We will now turn our attention to the dwellings of the latter. Having considered the temples and public buildings generally, let us see what the ruins of Pompeii can tell us about the homes of its people.

Greek as were the traditions which evidently guided to a very great extent the architecture of Pompeii, the houses may, nevertheless, be described as Roman in their plan and arrangements, and they include the hall or atrium, which was a distinctive Roman feature. The plans of the houses at Pompeii agree also in a remarkable degree with the remains discovered in Rome itself. We may, therefore, briefly consider with advantage the characteristic features of Roman houses. We shall find them very uniform in their general arrangements, and for this uniformity there were various reasons. Beginning with such simplicity that permanent roofs were unknown, the Romans ended by giving scope to all the refinements of decoration and luxury which the wealth of later times had rendered possible.

In early times, rigid sumptuary laws regulated the style in which each class might live, and it was a special privilege of senators to have their door of entrance opening to the street. Most of the houses at Pompeii consisted of one storey only, and this was the original mode of construction. As, however, ground became more valuable, and population increased, buildings of several storeys became common. These were finished with a flat terrace roof, called the *solarium*, which was used by the inhabitants as a place in which to take the air or enjoy the sun in winter. Here also would sometimes be eaten the principal meal of the day, the *cena*; and from this use arose the term *cenaculum*, which was applied by the Romans to the upper storey of their houses.

The construction of the walls was originally very slight, as no great strength was needed for buildings one storey only in height. As height increased, however, an improvement became necessary, and the walls were made thicker and more solid. In late times it was found necessary to restrain the height of buildings in towns, and the Emperor Augustus issued a decree limiting the height of town buildings to 70 ft. This, however, was still thought excessive, and the limit was further reduced by Trajan to 60 ft.

It is interesting to find the Romans dealing with the same difficulties which trouble our municipal authorities in the nineteenth century, and it is curious to note that the height of 60 ft. prescribed by Trajan is the very limit which our own Metropolitan Board of Works recently sought (though unsuccessfully) to impose upon future buildings in London. There can be little doubt, I think, that some limitation is required in our great towns, not only in the interests of architec-

ture, but in those of general convenience and the public health.

Ostentation of all sorts was sternly repressed in the early days of the Republic. Afterwards, the Romans, as conquerors of the world, could avail themselves of the experience of all nations. Admiring the arts of Greece, they corrupted them, and loaded them with ornamentation. Their houses became palaces, and brick gave way to marble.

The great patricians vied with each other in the magnificence of their dwellings, and even Cicero could spare time from affairs of state for the decoration of his villa at Tusculum. Augustus might be simple in his tastes, but Macænas has shown, by his villa at Tivoli, how completely the austerity of Republican manners had become lost in the magnificence of the empire. Nero followed, and exaggerated the prevailing taste for luxury, and after his time pure taste seems to have departed.

It is remarkable, however, that through all changes of scale and style, the plans of the houses preserved a great amount of uniformity. The dimensions might be more or less grand, the decoration elaborate or simple; but the general arrangements suffered little change, and they have left their trace on many of the earlier ecclesiastical buildings of Italy, and even on the private houses of comparatively modern times.

It is not, perhaps, to be wondered at that uniformity such as I have referred to should be found among ancient buildings, for do we not experience it ourselves? Custom becomes in time almost a religion, and is as little to be transgressed. Local circumstances first give rise to some special type of plan, and this becomes an iron rule, against which it is difficult to strive. Who does not know the plan of the ordinary London house, so distressing by its monotony of front and back rooms, narrow entrance, and stairs squeezed on one side? If we could imagine our city suddenly overwhelmed, as was Pompeii, how much might not be written by its discoverers centuries hence on the uniform plans of the dwellings of the ancient Londoners?

(To be continued.)

REPORT OF ROYAL IRISH ACADEMY RE SCIENCE AND ART SCHEME.

The following supplemental report was read by Dr. Ingram at the late special meeting of the Academy:—

The council have resolved by an all but unanimous vote that they cannot recommend any amalgamation with the Royal Dublin Society, for the following reasons:—The objects of the Royal Dublin Society, and of the Royal Irish Academy, are, and have always been, essentially different. The former society was incorporated only to promote "Husbandry and other useful arts in Ireland," and has done much good service in those departments during its long and honourable career. The Academy, on the other hand, is a body chartered for the purpose of scientific, literary, and antiquarian research, quite apart from industrial ends or practical applications. The suggestion to amalgamate these bodies is, in principle, the same as would be a suggestion to amalgamate the Royal Society with the Society of Arts—a proposal which would probably not be received with favour by those bodies; but the incongruity is still further increased by the singular idea of annexing to the projected new Society for Ireland an agricultural section. But even if the objects of the societies were less distinct, this Academy cannot afford to obliterate, by a change of its name and constitution, the honourable memories of a hundred years. Its title is associated with illustrious names, and with great discoveries; it is known throughout the civilised world by the circulation of its transactions, and through the honorary members associated with it both in the United Kingdom and abroad; and stronger reasons than any yet assigned will be required to induce it to break with its past, and undertake the task of winning a character anew. It must further be remembered that the proposal is to fuse the Academy, not with the Royal Dublin Society, as it once was, or even now is—a body of large resources and with an important sphere of action—but with that society deprived of nearly all the departments once connected with it, shorn of almost

all its public functions, and reduced to a shadow of its former self. Further, the council have unanimously adopted a resolution adverse to the transfer of the charge of the vote for the Royal Irish Academy from the Irish Government to the Science and Art Department, for the following reasons:—The Department of Science and Art, like the Committee of Council, of which it is a branch, is a purely educational body. It has no concern with learned societies established for original research, scientific, literary, or archaeological. In the present instance, for the first time, it is sought to bring under its control, through the machinery of finance, a society of this kind. The Royal Society (London), and the Royal Society of Edinburgh—the two institutions most nearly analogous to our own—receiving their grants direct from the Treasury. This Academy is entitled to the same freedom from the interference of the Science and Art Department, and would, in our opinion, be lowered in the estimation of the country by being subordinated to a department whose proper business connects it, not with independent research, but with the humbler office of instruction in the practical sciences and industrial arts. Though this institution alone is directly affected by the present proposal, we think the attempt thus to enlarge the sphere of action of the Science and Art Department well deserves the attentive observation of similar societies in England and Scotland. Were the department a merely administrative body, without scientific pretensions or ambition, the subordination sought to be imposed on the Academy would be less open to objection. Learned societies cannot reasonably object to such governmental supervision as is necessary to secure grants of public money from being diverted from the purposes to which they may have been appropriated by Parliament. But it is to be feared that a department, which by its nature is connected with the teaching of science, would seek to exercise a sort of control over the work of such societies which would be fatal to their independence, and highly detrimental to their usefulness. The Irish Government, both by its constitutional and its local position, is the natural, as well as the best-informed, guardian and protector of the body which represents the higher pursuits of learning in this country. The council deem it right to observe that the Commissioners on the Science and Art Department in Ireland, 1869, do not, in section 4, p. xxxv., of their report, or elsewhere, recommend that the charge of the vote for the Royal Irish Academy should be transferred to the Science and Art Department, as is stated in the letter from that department to the Secretary of her Majesty's Treasury, of the 2nd of May, 1876. It may be said by some persons that, in opposing amalgamation with other societies in Dublin, and declining to become a branch of the South Kensington establishment, the Academy would show a selfish inclination to stand in the way of the creation of a great science and art museum for Ireland. This would be an entire misrepresentation. There is no excuse for confusing those questions with that of the transfer of our antiquarian collections to the Government. The Academy has distinctly declared its desire to co-operate in the establishment of such a national museum, and its willingness to transfer these collections to the Government under reasonable conditions, similar to those conceded to the Scottish Society of Antiquaries. Had it, however, been understood that either the scheme of amalgamation, or subordination of the Academy to the Science and Art Department, was intended to form part of the Government plan, as communicated in Lord Sandon's letter, the council could not have recommended the Academy to entertain the proposal at all. The action which the council recommend may, they are aware, be attended with serious consequences; but the issues involved appear to them to be of such high importance that, whilst fully impressed with the gravity of the crisis as possibly affecting the resources—if not the very existence of the institution,—they yet feel bound to advise the Academy:—(1) Not to accept the scheme of amalgamation with the Royal Dublin Society; and (2) Not to acquiesce in the transfer of the charge of its vote from the Irish Government to the Science and Art Department.

He (Dr. Ingram) moved that the report be received, which would give it a place on the record of their transactions, and open the way for its subsequent consideration, and, should the Academy deem fit, of its adoption.

The chairman put the motion, which was unanimously adopted.

The Very Rev. Dr. Russell, President of Maynooth College, moved—

"That the Academy approves of the action taken by the council in declining to entertain the proposed scheme of amalgamation."

The resolution was seconded by Lord

Viscount Gough, and after much debate it was carried by an overwhelming majority.

Rev. Dr. Carson, F.T.C.D., moved the next resolution—

"That the Academy protests against the transfer from the Irish Government of the charge of the Academy's Parliamentary grant, and declares its determination to forego all claim on the bounty of Parliament rather than apply to the Science and Art Department of the Committee of Council on Education for any issue of its grant."

Master Pigot seconded the resolution, which, after some discussion, was adopted.

The Rev. Dr. Longfield moved—

"That it be referred to the council to take such measures as in its judgment will be the best calculated to obtain for the Academy a withdrawal of the assent given by the Treasury Board to the transfer of the Academy's vote to the Education Department."

Dr. Hayden seconded the motion, which was adopted.

The above resolutions were met in one or two cases by counter resolutions and amendments, but the original were carried by overwhelming majorities.

EMPLOYERS AND WORKMEN— ENGLAND AND SCOTLAND.

SEVERAL fresh disputes in the building and cognate trades have cropped up since our last issue, and others which had existed for some time have been settled.

At Bristol the society of painters continues on strike, though the masters have resolved to withdraw the lock-out. The men are offered the old terms of 6½d. per hour, which they refuse. The non-society men, it is stated, are likely to accept the offer.

At Darlington the plumbers are "taking the lead," and have begun by asking their employers to concede one hour per week. They desire, like other mechanics, to leave off at twelve instead of at one o'clock on Saturdays. They also demand ½d. per hour extra wages.

At Wolverhampton the carpenters, plasterers, bricklayers, and labourers have obtained a rise of ½d. per hour. The first three now receive 8d., and the last 5½d. per hour.

At Cardiff and Newport the painters to some extent are still on strike, and the formation of a co-operative body is talked of, with a view to the men taking contracts on their own account.

At Whitehaven the journeymen painters have been conceded an advance in their wages from 26s. to 30s. without any stoppage of business.

At Fleetwood the joiners have imitated their brethren in Southport by giving three months' notice that they require an advance to 8½d., which is 1d. per hour more than they at present receive. They also ask their working time to be fixed at 54 hours per week.

At Doncaster the masons reject an advance of 3s. per week and a reduction of 4½ hours. The strike continues, the men demanding an assurance from their employers that they will not bring to the town certain foreign work—dressed stones, &c. They also ask half pay when unable to work through bad weather.

At Mossley a portion of the masons of the district asked for an increase of 3s. per week, which was conceded. The wages will now be 36s. in summer and 33s. in winter. The masons' labourers ask an advance of 2s. per week, but have extended their notice of the time when their present rate of wages should cease.

At Glasgow a joiners' strike has followed that of the masons, and daily meetings have been held over the city. Between 2,000 and 3,000 struck in shops where employers refused to grant an advance from 8½d. to 9d. per hour. It is reported that 82 masters, who were not members of the association, conceded the advance and signed the bye-laws. A large number of men have since returned to work. From the above action we may augur that the building trade is brisk in Glasgow.

Throughout Lanarkshire a number of

masons in various districts where disputes existed have commenced work at a reduction of wages. In some cases a reduction of 1d. per hour, and in others ½d. per hour, has taken place.

At Manchester a plumbers' strike has existed for eight or nine weeks, and plumbers and glaziers to the number of 1,800 have been out. The men are asking an advance of 2s. per week.

There is a great depression of trade in the English mining districts, extending from the north-east to South Wales, and notices are being given by masters of a reduction of wages.

In Scotland the linen trade of the north continues much depressed, without any signs of immediate improvement.

Several branches connected with the iron and steel trade in the midland districts of England are much disturbed. At Sheffield disputes have caused the importation of foreign work in the cutlery and other trades.

NELSON'S PILLAR.

A BRIGHT IDEA.

When we read those ancient proverbs,
Hints to us they oft reveal;
And the wisdom of our fathers
Makes us, too, our dullness feel.
Yet, by way of saying something—
Something new, you will agree—
As there's time and place for all things,
"Place the Lighthouse near the sea."

Not in centre of our city,
Where the lines of traffic meet—
In the very path of commerce,
Blocking up a noble street,—
As a figure in a picture
Disproportionately tall,
Seems to make its right surroundings
Quite ridiculously small.

Place it where the roaring billows
Dash upon the rocky shore,
Near where the ill-fated "Vanguard"
Shall be lifted "never more!"
And perchance the British Navy,
Gazing on their mighty chief,
May, when overcome with sorrow,
In the ocean find relief!

Then once more I do entreat you—
Leave the mighty passage free!
Take away the huge obstruction!
Place the Lighthouse near the sea!

F. I.

[Nelson's Pillar has often been the subject of a joke architecturally and "obstructively," and often with rhyme and reason. We good-naturedly extend the liberty of the Press to our correspondent's "bright idea," or rather light idea.—Ed. I. B.]

WOOD-WORKING MACHINERY AT THE CENTENNIAL.*

THE correspondent of the *Engineer*, in an interesting letter on the machinery at the Centennial Exhibition, gives the following description of some of the wood-working machines:—

As I expected, the American display of wood-working machinery is one of the most interesting in machinery hall, and most of it being in motion, it is a source of great attraction to visitors, especially the band saws, on which most intricate patterns are executed, and sufficiently inviting of themselves without dressing up the operators in fancy costume, as was done in one case, to draw the attention of visitors. One of the most complete exhibits of small wood-working machines is that of Messrs. Bentel, Marge-dent, and Co., of Hamilton, Ohio, who show about a dozen machines for various purposes. Their patent universal wood-worker will execute almost every description of jointing, squaring, planing, rabbeting, &c., and is fitted with a neat arrangement for adjusting the level of the tables by means of wedge-shaped slides, and has the important advantage of allowing two workmen to be executing different jobs at the same time.

A moulding machine, called the excelsior wood-worker, is fitted with a new motion for this class of tools in the shape of conical friction gearing covered with pasteboard, and

by using either the upper or lower horizontal cone the action of the tool can be reversed. An excellent planing machine is adapted to plane either on the top of the cutter-head or underneath it. The cutter-head is of a triangular section, with the edge of the blade set diagonally with the axis of the cutter, so as to make a drawing cut, only a small length of the blade cutting at the same instant. The arrangement of this cutter-head is particularly ingenious, and at first sight somewhat puzzling, though in reality it is very simple. It is fitted with serpentine grooved feed rollers, and one of the planers is furnished with tongueing and grooving cutters for light flooring boards.

A horizontal universal boring machine occupies but little space, and the table being adjustable, it can bore at any desired angle; the table can be raised or lowered 16 in., enabling the workman to bore a hole in the centre of a log 32 in. square, and can be tipped in either direction, and raised or lowered without disturbing the angle at which it is set.

The vertical boring machines shown by this firm bear a close resemblance to those made by English manufacturers, and do not call for any special remarks; but an important improvement in band saw machines consists in the construction of the upper band saw wheel which in appearance does not differ from the ordinary wheel, but a recess of the proper width and depth is formed in the rim; the bottom of the same has a number of projections which are turned true and ground to a circle, corresponding to the diameter of the wheel. The space between the projections is laid with anti-friction material to the exact height of the projection; thus prepared, the recess forms an accurate bed for the reception of a cast steel band or rim, accurately ground on the in and outside. The steel band is covered with leather to preserve the set of the saw. Oil-holes are provided on opposite sides of the wheel, through which a few drops of lard or sperm oil once a week will insure sensitive working of the steel band. When the lower wheel and saw band are set in motion, the latter communicates the motion to the upper wheel; but this being at rest, does not follow at once with the speed acquired by the lower wheel, because the steel rim or band slides in the recess on the rim of the wheel and sets the latter gradually to the same number of revolutions as the lower wheel when it attains sufficient momentum. Whenever the velocity of the driving wheel is suddenly reduced, either by the application of the brake or the saw entering the wood, the steel band revolves with the speed of the driving band wheel, while the upper wheel revolves by the force of its momentum, creating a harmless friction inside the steel band, but not on the saw blade, as is usually the case; thus the slipping of the saw on the upper wheel, which creates heat and crystallises the saw, is avoided, and the strain on the blade is considerably reduced; in fact, the saw has little or no driving to do, which is of great importance when very delicate blades are employed. The spherical guides are also worthy of notice. The lateral guides are formed of flat pieces of wood, which are arranged on each side of the saw, so that they can be closed up to the saw blade and adjusted to compensate for the wear. The back thrust guide consists of a series of finely turned and hardened steel balls, and steel washers of the same diameter as the balls, having a hole drilled through the centre, the balls and washers lying on each other alternately in a cylindrical enclosure drilled into the cast iron which forms the support for the lateral and back thrust guides. A groove of the proper width is cut lengthwise through the cylinder, so that the back of the saw comes in contact with the balls, and as the balls rest only on the edge of the small holes drilled through the supporting washers, the balls can all be brought forward and adjusted to a perpendicular line established by the back of the saw blade; the saw blade, when passing downward, will cause the steel balls to revolve sufficiently to prevent the cutting

* From the *Timber Trades Journal*.

of the saw blades into the balls. The adjusting screws, behind the balls, which support and hold the balls against the pressure of the blade, have the points coming in contact with the balls arranged a little eccentric, which will cause them to revolve irregularly, presenting gradually the whole surface of the ball to the support of the blade. A series of hardened balls give a long support to the back of the saw-blade; and they support the blade very close to the material operated upon, and, on account of their rolling resist the abrasion of the passing saw-blade very effectually. Further, a cutting over the whole surface of the ball in one line cannot take place, as it revolves irregularly, in consequence of the eccentrically bearing back screw. The table of this sawing machine is adjustable, and is clamped at any desired angle by means of a semicircular projection on the underside furnished with a dovetailed central rim, against which a steel washer is forced by a thumbscrew, forming a very quick-acting and secure clamp. The edge moulding and shaping machine will perform a great variety of work, and the table is quite free from any pillars or other projections, enabling the operator to turn the timber in any desired position. The motion of the spindle can be reversed quickly by means of a handle conveniently placed, and the spindle can be raised, lowered, or set at different angles, as required. The whole of the machines exhibited by Messrs. Bentel, Margedent and Co., have solid cast frames, and are well finished, though some of the parts are much lighter than is usually found among English machines of the same class.

THE BIRMINGHAM ARCHITECTURAL ASSOCIATION.

THE second annual meeting of this association was held at the rooms, Temple-row, on Tuesday week, the president, Mr. J. Bateman, in the chair. The balance-sheet presented by the treasurer, Mr. W. H. Noble, showed the association to be in a prosperous condition.

The secretary, Mr. A. Reading, then read his report, in which he stated that an increase of members had taken place during the past session, and congratulated the association upon the increase of honorary members. The report also showed that a fair amount of study had been done, and that the visits to buildings in progress had been well attended. Votes of thanks were given to the several architects for allowing the members to visit buildings, to the various gentlemen who had given lectures during the past session, and to the officers and committee for their services.

The result of the ballot for election of officers was next announced to the meeting, the following being the gentlemen elected for for the several offices:—*President*—Mr. Y. Thomason, F.R.I.B.A.; *Vice-President*—Mr. A. F. Smith; *Treasurer*—Mr. W. H. Noble; *Honorary Secretary*—Mr. A. Reading; *Secretary of Designing Class*—Mr. J. W. Fisher; *Secretary of Construction Class*—Mr. F. G. Hughes; *Secretary for Visits*—Mr. W. H. Kendrick. These members, with Messrs. Morgan and Mantel, constitute the committee.

The president afterwards delivered his address, congratulating the association upon the increase of honorary members, and expressing a hope that at no distant time most of the principal practising architects in Birmingham would become members, for such an association required the influence and counsel of the elder members of the profession to stimulate and encourage their efforts. It was also, he said, a very great pleasure to him to see that the amalgamation of the Birmingham with the London Association had been brought to a successful issue, for by this amalgamation they were enabled to enjoy nearly the whole of the advantages belonging to the parent society. He then gave the usual address to the members, and chose for his subject "Architectural Sketching," in which he spoke of the various methods of

sketching, pointing out the merits and demerits of each particular style, and summed up his able address (during the delivery of which he was frequently applauded) by encouraging the members to persevere in the path they had entered, and promised that though his term of office had expired he should at all times be most willing to render any assistance in his power to them.

After a vote of thanks to the chairman for his address, the business meeting was brought to a close. The members then proceeded to the Stork Hotel, where the annual dinner was served, the president subsequently taking the chair, and all enjoying a pleasant evening.

DOINGS IN KINGSTOWN.

THE Kingstown Commissioners are managing to do some useful work, notwithstanding a great amount of talk and delay. The result of the proceedings of the last monthly meeting show that letters from the Local Government Board had been received, stating that it was within the board's discretion to pay 1 per cent. commission on the £25,000 proposed to be borrowed in addition to 4½ per cent.; 100 ft. kerbing, at 2s. 4d., from Mr. Dixon, and 100 ft., at 1s. 11½d., from Mr. Doherty had been ordered. In reference to the proposed provisional order, the Local Government Board conveyed suggestions of their counsel, Mr. Monahan, Q.C., that permissive clauses should be introduced to enable the Blackrock Commissioners to discharge their sewage at the West Pier, and the Kingstown Commissioners at the Dalkey outlet at Bullock. These suggestions were approved. The surveyor's report recommended the hiring of boilers for boiling asphalt, as the boilers purchased were not suitable till altered. Tenders had been accepted for 850 ft. of pipe sewer, in Waltham-terrace, from Thomas Sexton, for £129; 2,885 ft. of pipe sewer at Tivoli-terrace, from B. Pluck, for £500; and for 3,525 ft. of pipe sewer, from Albert to Adelaide-road, across the fields, from John Pluck, for £580. These were the lowest tenders, except in the case of Waltham-terrace. Mr. M'Evoe inquired what would be the cost of altering the boilers. The surveyor replied he had not as yet ascertained, but would by next meeting of the board. The surveyor's report recommended the immediate employment of three additional men, horses, and carts, for use in the recently annexed portion of the township.

PARLIAMENTARY EXPENSES FOR SEWERAGE PURPOSES.

Mr. Crosthwaite moved that the bill of costs of Mr. Sharkey, amounting to £1,200, be paid. Mr. Reilly seconded this motion. Mr. M'Evoe and Mr. Sullivan objected to the possible payment of this bill of costs out of the £10,000 borrowed through Government for sewerage purposes. The clerk said the bill would be paid out of the rates now being collected. The motion for payment of the bill of costs was carried. Mr. Crosthwaite also moved that Mr. T. Sexton be paid £510 for sewerage work already done.

WANTED A CLERK OF WORKS.

Mr. Roche moved that a clerk of works be employed at 20s. a-week. Mr. M'Evoe felt disposed to second this motion if a suitable person could be obtained. Mr. Sullivan thought the wages mentioned by Mr. Roche were too small. Mr. Kelly thought the surveyor was quite competent to look after the works without a clerk of works. The surveyor said a clerk of works would be of great advantage to him. The chairman finally moved that a competent clerk of works be advertised for at £2 per week. Mr. M'Evoe seconded this resolution, provided a competent and skilled person should be procured for the office. The Kingstown magnates have a high opinion truly of the value of a competent clerk of works, when they estimate his services at 20s., or even 40s., at a time when journeymen operatives in the building trades are receiving from 36s. to 40s. and upwards for their week's wages.

LOANS FOR SEWERAGE WORKS AND OTHER IMPROVEMENTS.

The chairman said this board had obtained a loan of £10,000 for sewerage purposes; they now sought £11,000 more for the erection of a town-hall and court-house, and asphalt. A percentage of 1 per cent. would be required as a commission by the agents procuring our other loan of £11,000. The Local Government Board's letter was read, which stated that the percentage appeared to be within the discretion of the Board of Commissioners. Mr. Sullivan doubted if the payment of this commission was legal. He recommended obtaining counsel's

opinion on the question. Mr. Kelly said the legality of the matter lay completely in the hands of the board's solicitor. A former resolution was referred to, which justified the borrowing of £11,000 or £25,000 at 4½ per cent., with 1 per cent. for commission, provided the matter was legal. Mr. M'Evoe objected to the loan as excessive as regarded interest and commission. Mr. Reilly pressed for contracting the loan under the proposed terms, as money might rise in the market to 10 per cent. in the course of the thirty-six years over which the repayment of the loan was to be extended. Mr. M'Evoe knew several public boards who had obtained loans at 3½ per cent., and he objected specially to paying the commission. The chairman explained that the intention of raising the £25,000, or half of that sum, at present, through Messrs. Guinness and Mahon, was to pay off a loan obtained from the Patriotic Assurance Office at a higher rate of interest. He advised the borrowing of only £11,000 at present, the commission on which would be about £125. The matter was deferred. A clause for enabling the Kingstown Commissioners to arrange with the Dalkey Commissioners for discharging Glasthule sewage into the Bullock sewer was considered and adopted, and the solicitor was directed to have a similar clause for Blackrock introduced into the proposed provisional order. A committee report agreeing to increase the salaries of the clerk, surveyor, and collector, was read, and referred to a full board for ratification.

THE DHU HEARTACH LIGHTHOUSE.*

INSTITUTION OF CIVIL ENGINEERS, LONDON.

THIS lighthouse tower, the erection of which had been recently completed by the Commissioners of Northern Lighthouses, occupied an important position with regard to the navigation of the west coast of Scotland. The rock was 14 miles from the Shore Station at Isle Earraid, in Mull, the nearest land. The main rock was a mass of trap, 240 ft. long and 130 ft. broad, with a rounded top rising to 35 ft. above high-water spring tides, and it was surrounded on all sides by deep water. The tower was a parabolic frustrum surmounted by a plain cavetto, abacus, and parapet, the upper course of which was 107½ ft. above the foundation. The diameter of the tower at the base was 36 ft., that of the top being 16 ft. The doorway was 32 ft. above the foundation, and there were six compartments, affording accommodation equal to 5,500 cubic feet. The whole weight of the tower was 3,115 tons, of which 1,840 were contained in the solid base. The tower was constructed of grey granite, of excellent quality, quarried in the immediate vicinity of the Shore Station.

Authority to begin the works was obtained in March, 1867, and, short as the season's work necessarily was, the excavation of the foundation was begun, and the first tier of the malleable iron barrack for the accommodation of the workmen, deemed necessary on account of the difficulty of landing, was erected. The winter of 1867 was employed in building the attending steamer, lighters, cranes, and other plant.

Landings were effected on thirty-eight days in 1868, during which the barrack was completed, and three-fourths of the foundation excavated. The shore works at Earraid were vigorously carried on, the quarries fully opened out, part of the foundation course was dressed, and the dwelling-houses were far advanced.

In 1869 landings were effected on sixty days. On the 24th June the first stones were landed. Part of the third course had been completed when a gale arose, on the 8th and 9th July, which tore up fourteen stones, each weighing 2 tons, which had been laid in Portland cement and joggled: eleven of them were washed off the rock into deep water, and this at a level of 35½ ft. above high water. Other proofs of the extreme violence of the sea at Dhu Heartach were recorded in the paper. A description was given of a submarine valley, or funnel-shaped track, to the westward of Dhu Heartach, which the author suggested might account for the abnormal sea at this situation. By the end of this

* Read by Mr. David Alan Stevenson, B.Sc.

season the fifth course had been completed. On shore, dwellings for five families had been finished, and seventeen courses of the tower were dressed. The stones were built dry on a fitting platform, were then transferred to lighters, and towed out to the rock. The lighters carried 16 tons, and the steamer took out two at a time. Three hours were occupied on the journey out, but on exceptionally fine days two trips were made. On the rock the tramway and all the cranes were worked by steam, the stones being built in as soon as they were landed, in case a gale should spring up. Square ribbon, cast and malleable iron joggles, were used in various parts of the work.

The number of days on which landings could be made in 1870 was sixty-two, and by the end of this season the thirty-first course was finished. The works ashore were pushed on, and contracts for the lantern and apparatus were entered into. In 1871, landings on thirty-seven days were effected, the masonry of tower was completed, as also the whole of the dwelling-houses at Earraid.

The fitting up of the lantern, optical apparatus, fog-bell, and internal fittings were executed in 1872. Two Portland cement beacons at Earraid were erected. The light, which was 145 ft. above the sea, giving a range of 18 nautical miles, was exhibited on November 1st. The apparatus was first order dioptric, showing a white light, except over an arc of seven points, which was red. The fog-bell was made distinctive from that of Skerryvore. In addition to the light-house, the works included nine dwelling-houses, for the lightkeepers and crews of the attending steamers. The cost might be approximately apportioned thus—

Tower, lantern, apparatus, and	£	s.	d.
fog-bell machinery - -	65,784	9	7
Shore establishment - -	10,300	0	0
	£76,084	9	7

The author pointed out that useful comparison with other towers was impossible, on account of the variety of circumstances, but he believed the cost would compare favourably with towers in less exposed situations.

NEW PULPITS.

HOLYWOOD CHURCH, COUNTY DOWN.

A HANDSOME pulpit (a photograph of which lies before us) has been placed in the parochial church, Holywood. The design is by Mr. John Lanyon. The pulpit is octagonal on plan, and is composed of Caen stone, with columns and mouldings of Galway marble. The panels are richly carved, and are relieved by various spars and marbles from Cornwall, Devon, Connemara, &c. In two of the panels are symbols of SS. Philip and James the Less. The book-rest is of stone and marble, carved. The columns number thirty-nine, and have all richly-carved capitals. Surrounding the base is the text, "We preach Christ crucified." The work has been executed to the entire satisfaction of the bishop and all parties concerned in the erection by Mr. A. P. Sharp, Great Brunswick-street.

CARNMONEY CHURCH.

The pulpit which has been erected in Carnmoney Church is of Caen stone, and forms six sides of an octagon, having moulded base courses up to floor level of pulpit, where there are circular moulded bases to marble columns at each angle, with carved caps supporting moulded trefoil arches. The panels between each column are richly carved, representing clusters of flowers, wheat, vine, &c., with natural foliage, and scrolls bearing illuminated scripture texts, the back ground being gilt. The spandrels on sides are carved; the projecting cornice also is richly moulded and carved. On the top of cornice, and facing the nave, is a neat book rest of carved stone and marble. The design was furnished by Mr. Thomas Drew, R.H.A., and the work was creditably carried out by Mr. A. P. Sharp, Great Brunswick-street. A brass plate set into the base of the pulpit

bears the following inscription:—"To the glory of God, and in loving remembrance of John Thomson, of Low-wood, Esq., J.P., and D.L. This pulpit is erected by his bereaved and sorrowing widow, Elizabeth Grace Thomson, in the church which for many years of his life he loved to frequent. He died 're-joining in hope,' on the 14th of April, 1874, aged 76."

LAW.

A LIGHT AND AIR CASE.

VICE-CHANCELLOR'S COURT.

Sir J. W. Mackey v. the Scottish Widows Insurance Company.—An application was made to the Vice-Chancellor on Monday for an extension of time for filing a replication in the above cause until the first day of next Michaelmas Term. Plaintiff complains that the buildings which defendants are erecting in College-street obstruct the access of light and air to his seed warehouse in Westmoreland-street. He was advised that it was essential, in order to bring his case fairly before the court, that the scientific and other evidence, on which he proposed to rely, should not be taken during the summer months, when the amount of reflected and diffused light is greatest, but in November and subsequent winter months, when the amount of light available to him would be a minimum.

The application was opposed on the ground of its being unreasonable, and one for which there was no authority. Defendants already complained of the delay which had occurred in the bringing of the cause to a hearing, and further delay would prevent them from furnishing that portion of the building intended for the purposes of their business and from letting the rest. Plaintiff was already open to a motion for the dismissal of his bill for want of prosecution; and if the present motion were granted the cause could not be heard before next Easter Term. The company had offered £1,500 to Sir James Mackey, but he demanded £5,000, although his interest in his premises was only for a term of fifteen years.

The Vice-Chancellor said it would be unreasonable to grant an application which would have the effect of postponing the hearing of the cause until next Easter Term; at the same time there was a great deal of force in what plaintiff's counsel had said as to the necessity of testing the effect of the buildings in question during the dark days of the year. Sufficient opportunity, however, would be afforded for this, as plaintiff would have up to November next for giving evidence. Under the circumstances, the motion should be refused with costs.

ACTION FOR RECOVERY OF FEES.

COURT OF COMMON PLEAS.

The Corporation of Dublin v. Michael Angelo Hayes.—This case, which was before the court on a conditional rule to change the verdict entered for the defendant by direction of the learned Chief Justice at the trial, was listed for judgment. The action was brought on a bond, to recover £320 4s. 2d., the amount of fees paid to the defendant when holding the office of city marshal, as registrar of pawnbrokers in Ireland, and unaccounted for by him, the bond setting forth that the defendant had agreed, when entering into the employment, to account for all fees received by him in respect of a salary of £300 per annum. The defence relied upon was that the fees in question were attached to the office held by Mr. Hayes, by statute, and that the bond sued on "was against public policy, illegal, and void." Chief Justice Morris said the court was unanimously of opinion that the verdict directed at the trial in favour of the defendant should stand. By the 26 Geo. III., cap. 43, and the 28 Geo. III., cap. 49, the defendant, as marshal, was also registrar of pawnbrokers in Ireland, and it was contrary to the public policy and contrary to law for the plaintiffs to enter into any arrangements agreeing to appoint to the office on condition of receiving a benefit from their appointee. The fees regulated by the statutes referred to were properly payable to the defendant, and could not be taken possession of by the plaintiffs in lieu of any other sum. That being so, the bond was bad, and the verdict on the count was properly entered for the defendant. There was another point raised by the issues, namely, whether the defendant's was a freehold office, or merely one during the will and pleasure of the plaintiffs; but having regard to the manner in which they had decided the first question, it was unnecessary to approach the second.

Counsel for plaintiffs—Sergeant Armstrong and Mr. T. P. Lynch, instructed by Mr. Francis Morgan. For defendant—Messrs. D. C. Heron, Q.C.; and Mr. P. Martin, M.P., instructed by Messrs. Geoghegan and Sons.

NEW HOSPITAL, KINGSTOWN.

On Monday last the "solemn inauguration" of St. Michael's Hospital, Kingstown, took place. The building is on the premises vacated by the Township Commissioners. We are indebted to our contemporary the *Freeman's Journal* for the report which follows. Our professional friends will, no doubt, be edified by its perusal:—

Thanks to the energy and indefatigable zeal of the Very Rev. Canon McCabe, P.P., and the clergy under him, and to the charity and benevolence of the people, a magnificent structure has at length been erected, and certainly a more suitable or more elegantly devised structure could hardly have been wished for. It is in every respect an admirably designed hospital. The space at disposal has been taken advantage of to the utmost, and the structure is in every aspect a model of artistic design and appropriate arrangement. The lighting is extremely good, and the ventilation generally quite perfect. Externally the building does not boast of very much. It is substantial and strong, without any attempt at unnecessary ornamentation; the interior, however, is exceptionally well conceived, and for the purpose to which it is to be devoted a more thoroughly excellent architectural effort has seldom been made; the wards are most beautifully placed, and the general arrangement of the rooms would remind one somewhat of the Mater Misericordiae Hospital, a fact which is sufficient to suggest the excellence of the design. It is a building of which the inhabitants of the township have every reason to be proud. The building was commenced but a short time since on the ground vacated by the Town Commissioners. The locale then presented an unsightly appearance, and upon that site a building, handsome, commodious, and imposing, has been raised. The premises hitherto used as an hospital for the sick and destitute comprised buildings ill-adapted to the purpose. They consisted of a small, ill-ventilated, close, and inconvenient house and grounds, situated in an out-of-the-way locality near Monkstown. The premises were taken some few years ago and given over to the care of the Sisters of Mercy, but the demands made upon them bore no proportion to the scant accommodation at their disposal. In fact, there was an absolute necessity for a more commodious building. To the appeal for means to provide an institution such as was desired the people of Kingstown readily responded. The site which was selected is central and most suitable. The hospital has been built from designs by Mr. J. L. Robinson, and are most creditable to him. The front or main building comprises three storeys, being 45 ft. high. The base is constructed of granite stone, with alternate courses of black lime stone, while the upper structure is built of Dalkey granite. The wards are lit by six arched windows, with dressings of white brick and Bath stone, which gives them an ornamental look. The basement storey is devoted to the dispensary; the entrance hall is flagged with handsome tiles. On each side are the physicians' rooms and the dispensary. The two upper storeys are used as male and female wards. They are 56 ft. long, 24 ft. wide, and 16 ft. in height. The return building comprises four storeys, the lowest of which is devoted to the culinary purposes of the house. The second and third floors are used as wards, and are nearly on a level with those in the front building. The upper storey has an operation and lecture theatre, lit from the roof. There is also a resident's room. Parallel with each ward are large airy halls, in which patients can promenade, and through which the several wards are wholesomely ventilated. The wards in the return building are 35 ft. long, by 23 ft. wide, and 12 ft. high. For each patient there is allowed about 1,600 cubic ft. of air. Attached to each ward are a bathroom and pantry. At the angle of both buildings is the stone staircase, which leads to the wards. A supply of hot and cold water is supplied to each ward through a series of pipes, and also to the pantries and bathrooms. The building will accommodate between sixty and seventy patients. Throughout the building the woodwork is stained and varnished. The chief entrance to the hospital will be through Harrymount House, which has been considerably improved, and is fitted up for the accommodation of the Sisters of Mercy, who are to have charge of the hospital. The other entrance is through the centre of the chief building. In the course of time, should it become necessary, another wing may be added to the hospital at the left-hand side of the centre gable, and it is then intended to make the chief entrance through this portion. Medical and surgical cases will be kept apart. The cost of the whole building is about £6,000, and the works have been carried out by Messrs. Meade and Son, in a manner that reflects upon them the highest credit.

ELY CHAPEL, HOLBORN, LONDON.

THE Rev. William Lockart, B.A., better known among the Roman Catholic community of London as "Father Lockart," makes an appeal for assistance for restoring the ancient chapel of St. Etheldreda, Ely-place, Holborn. He writes:—"I would ask your kind permission to say that the ancient chapel of St. Etheldreda stands ready for restoration. The walls and roof are nearly as sound as when built 600 years ago. The crypt will be used for divine worship in the course of next month if all goes well. The scaffolding is up for the restoration of the interior of the upper church—only money is wanted. About two years ago, by timely purchase, this beautiful relic of the Middle Ages was saved from the chance of demolition for warehouse purposes. I have now no more money. Therefore I need help. As an ancient place of Catholic worship and sepulture, the honour of the Catholics of this country is in a special way concerned in its perfect restoration. As an historical monument it is more than private property, and belongs in some sort to the English public. I should be glad to have the advice and assistance of a competent committee of taste, consisting of noblemen and gentlemen who would feel a pleasure in helping to restore this most interesting link between the faith of the thirteenth and nineteenth centuries."

HANDICRAFT AND HANDICRAFT TOOLS.

(Concluded from page 162).

TOOLS USED IN HANDICRAFT.—SAWS.

THE form of a saw must in one dimension at least be very thin, and that without any opportunity for strengthening any part by means of ribs. When a strengthening bar is introduced at the back as in dovetail saws, the depth of cut is limited. In order, then, to permit the guide principle to operate efficiently, this thin material must be so prolonged as under all circumstances to guide the cutting edge in a straight line. Of course we are dealing with saws to be used by hand, and not with ribbon or machine-driven saws.

If a light saw blade be pressed against an object or hooked on one, then tension causes this straight blade to be more and more strengthened. On the contrary, if pressed forwards by thrust the weakness of the blade is evidenced by the bending. Now, formed as saw teeth are, either to cut in both directions, or in the forward direction only, then there is always one direction in which the work to be done is accomplished by a thrust upon this thin metal. Clearly the metal will bend. If, however, the teeth are such as to cut in one direction only, and that when the tension is on the metal, the work tends to preserve that straightness of blade upon which an important quality and use of the tool depends. That this tension system can be efficient with a very narrow blade is clear from the extensive use of ribbon saws. There is, however, a property in the breadth of the blade which applies equally to the tension and thrust systems—it is the guide principle. The breadth of the blade operates by touching the sides of the gateway opened by the teeth. When it is desired to dispense with a straight guide for sawing purposes, it is done by narrowing the blade as in lock saws, tension frame saws, &c.

There is obviously a limit to the required breadth even for the most effectual guidance and movement—this guidance should be uniform through the entire cut; hence upon the guide principle alone there is required a breadth of saw beyond what is requisite for the teeth. The reasoning hitherto has landed us upon a parallel blade of some (as yet) undecided breadth. When one of our ordinary hand cross-cutting saws is examined, it is observed to be taper and not parallel, the tapering being at the edge or back, where the teeth are not. This has been done to meet our practice of using the saw as an

instrument for thrust instead of tension. When the teeth near the end furthest from the handle are to operate, and there is no steadiness obtained from the guidance of the sides of the already separated timber, then the whole of the thrust must be transmitted through the necessarily thin blade. An attempt to compensate for this thinness by increasing the breadth is the only course open. It is one not defensible upon any true principles of constructive mechanism, for it is not in the increased breadth or extension of surface that resistance to bending is wanted, but it is in the thickness, and that is impracticable. If any are disposed to defend our national practice in single-handed sawing, they may say this is not the true reason for causing the saw to be formed taper, as we usually see them—that there is another reason not alluded to.

In describing the transition from such tools as axes and chisels to those tools employed in cross-cutting timber, a short time was given to explain how to deal with the two requisite pressures and combine them into one.

To carry out the views of mechanicians on this branch of the subject, which is worthy of more detailed consideration than it is likely on the present occasion to receive, various problems touching the resolution of forces would enter.

Now in thrust saws the hand and arm of the workman occupy a definite position, and the line of pressure on the saw is thus very much determined by the inclination of the handle (that part grasped in the hand) to the line of teeth prolonged backwards. If the handle be placed at such an angle that a large part of the resolved thrust be perpendicular to the line of teeth, then the "bite" may be greater than the other resolved portion of the power can overcome. At another angle the "bite" may be very little, and although the saw thus constructed would move easily, it would work "sweetly," but slowly. The construction is suitable for saws with fine teeth and for clear cuttings. It will be seen from these considerations that there should be preserved a very carefully considered relationship between the size and angle of the teeth and the position in which the handle is fixed, or rather the varying adaptability of the workman's thrust. Indeed, upon fully developed and accurate principles, the timber to be cut should first be examined, its fibrous texture determined physically, and a saw deduced from these data, having teeth and handle so related as to do the required work with a minimum of power. This multiplicity of saws is not available; and as in music the multiplicity of notes which only the violin can produce are rejected in other instruments, so here the multiplicity of theoretical saws is rejected, and a kind of rough and ready compromise is effected between the position of the handle and the angle and depths of the teeth. It would, however, well repay those whose works are usually of the same character and of the same class of timber, to consider these points, with a view to the selection of saws and position of handle suitably constructed to do the work with the least expenditure of power.

Whatever may be the other conditions required in handles, the large majority of saw-handles have curved hooked projections; these are connected with the pressure of the Sawyer on the teeth. If, in sawing, the hand bears upon the upper hook, then an increased pressure is given to the forward teeth; if upon the lower hook the pressure on the saw teeth is released, and consequent ease in sawing results. The angle at which direct thrust ought to act upon the line of teeth in saws is obviously very different. Each material may be said to have its own proper angle. It will be further noticed that in the handle of the "one man saw" the upper hook is wanting, and this because under any circumstances the weight of the saw is more than sufficient, and therefore it is not requisite that any resolved portion of the workman's energy should be compounded with

this. Not so with the other hook; that is restrained in order that thus the weight of the saw may be taken from the work. For these reasons the line of direct thrust is nearly parallel with that of the teeth. We seem to be guilty of much inconsistency in the placing as well as in the formation of saw handles.

Now may be considered the circumstances which influence the form and position both of the teeth and the edges to be put upon them, in the case of hand saws operating either by thrust alone, or by thrust and tension combined (as in the two-handed cross-cutting saws used by two men, or in the whip and frame saw used in saw-pits). Unless specially mentioned the thrust hand-saw for cross-cutting will be the only one considered.

It may be well to explain that the coarseness and fineness of saws are estimated by the number of teeth points in an inch. The saw-maker uses the term "pitch," but not in the sense as employed in wheels and screws. By pitch he "means the inclination of the face of the teeth up which the shaving ascends." Clearly if the saw is to cut when drawn in both directions, the slope of the teeth from the points must be the same on both sides; indeed, this may be considered the primitive form of saw teeth, and derived as the saw is said to have been from the backbone of a fish, it is the form that would be suggested. To use a saw with such teeth in the most perfect manner would require that the action at each end should be the same; hence, these are the forms of teeth generally met in the ordinary two-handed saw used for the cross-cutting of timber. Soft Caen stone is frequently cut into slabs or smaller blocks by such a saw. The teeth of these saws are generally wide spaced, and the angle included in their point is from 40° to 60°. The forms, however, of teeth, to cut in both directions, are sometimes more varied, especially when the material is not of the uniform non-fibrous character of Caen stone. When this equality of tension in both directions cannot be had, and the workman is required to cross-cut the timber by a one-handed saw, it is clear that he must consider the action as that of tension or thrust alone—one of these only. The only reason why both are not adopted seems to be that were it so, very different muscular motions and postures of the body would be introduced, and probably experience has shown that these are more fatiguing than the alternate pressure and relaxation which takes place in the ordinary process of hand-sawing. Now, if the cut is in the thrust only, then the form of the back of the tooth must be the very reverse of that of the front, for it ought to slide past the wood, and not separate the fibres. In this case the back of the tooth may be sloped away as shown on the diagrams, or it may be shaped otherwise. The faces of the teeth are no longer bound to be formed in reference to an equality at the back. Indeed, with the liberty thus accorded, there has arisen an amount of fancy in the forms of teeth which fancy has developed into prejudice and fashion. Names dependent either upon uses or forms are given to these, and they are distinguished by such names in the trade. Peg tooth, M tooth, half-moon tooth, gullet tooth, briar tooth; also "upright pitch," "flat pitch," "slight pitch." Of these varieties, custom has selected for most general use in England the one in which the face of the tooth is at right angles to the line of the teeth. The backs of the teeth are, therefore, sloped according to the distance between the teeth and the coarseness or fineness of the saw. This is called ordinary, or hand-saw pitch.

Any exhaustive attempt to deal with the considerations which present themselves to one who enters upon the question, what under all the varying conditions of the problems should be the form and set of a saw-tooth, would require more experimental knowledge and patient research than the subject seems to have received. There are more than one hundred different forms of

teeth. Sheffield and London do not agree upon the shape of the handle. The Eastern hemisphere and the Western do not agree whether sawing should be an act of tension or one of thrust.

The quantity of timber cut down in America within the last ten years is said to be not less than that which stood upon twelve millions of acres. To accomplish this must have led to investigations with respect to saws such as the requirements of this country were not likely to call forth.

HOME AND FOREIGN NOTES.

THE ADELAIDE HOSPITAL.—At last week's meeting of the committee of this institution, a cheque for £230 was signed in payment of a chief rent of premises in Peter-street, purchased from the Church Temporalities Commissioners. A resolution was passed to purchase a fourth house in Wood-street, which will be necessary to complete the site of the new Fever Hospital. The plans of the new buildings to be furnished by the five competing architects are to be sent in to the registrar anonymously.

ST. PETER'S, DROGHEDA.—A memorial window has been placed in this church, as a testimony to the esteem in which the wife of the rector of the parish was held. In its design it fitly symbolises the life and character of the deceased lady by two scenes—one representing Dorcas distributing gifts to the poor; and the other the Good Samaritan. There are scrolls with suitable texts and emblematic figures. Underneath is the inscription: "In Memory of Harriette Eccles, wife of Rev. John Eccles, M.A., Rector of this Parish, who died July 20, 1874. Erected by members of the congregation and other friends."

A DISGUSTED GUARDIAN.—At the meeting of the guardians of the Athy Union last week, a member of that enlightened body is reported to have spoken as follows:—"I have heard nothing at this board for the last twelve months but sanitary business—an eternal ding of Pumps, pumps, pumps, Sewers, sewers, sewers, Nuisances, nuisances, nuisances, until it has become perfectly disgusting! How on earth does it happen that the sewage of the town has been running into the river for the last fifty years, and has only now been discovered to be a nuisance? I would not allow the sewage of the town to be discharged at any man's door."

CONGRESS OF CREMATIONISTS.—A cremation society, established at Dresden, under the name of The Urn, has recently sent circulars to various persons in Europe, inviting them to attend a congress, which is to be held at Dresden, when various experiments will be made. The advocates in favour of cremation are chiefly to be found in Holland. One society alone, established at the Hague, numbers 1,300 members. In Germany there are several cremation societies, viz., at Berlin, Hamburg, Bremen, Breslau, Leipsic, and Gotha. Several Italian, Dutch, German, Austrian, and Swiss delegates are expected to attend these meetings, and Roman Catholic priests from Milan, Zurich, and Hamburg will be present. In Germany there are three journals expressly devoted to advocate the cause of cremation—viz., *La Santé*, published at Leipsic; *L'Ami Medical*, at Dresden; and another journal at Walbourg.—*Sanitary Record*.

MUNICIPAL NOTES.—At an adjourned meeting of the Corporation, held on the 9th inst., Mr. C. Dennehy gave notice of a motion to institute prosecutions against the Rathmines and Pembroke townships for polluting the river Liffey by discharging sewage into the Dodder river; also, a notice of motion to require from the Alliance Gas Company a reduction in the price of gas for public and private use. The question of introducing into Dublin the Scotch law respecting ruinous houses was referred to a committee of the whole house. Reports were received from various committees of the Corporation as to the Local Government in Towns Inquiry before the Parliamentary Committee. Alderman P. P. McSwiney, J.P., gave notice to rescind the former resolution respecting the opening of St. Stephen's-green, and to take the management of the Green under the control of the Corporation. The matter came on again at Tuesday's meeting, and a resolution passed by the Commissioners on a previous day read. They state their determination not to hand over the charge of the Green to any other body than the Woods and Forests Commissioners, and that they will withdraw their consent to its being opened to the public, and "stand upon their rights as proprietors under the act of Parliament." The "Green" topic will, it is understood, crop up again on Saturday, when it is to be hoped there will be "a house" on the Hill.

WOOD PEELING IN PERTHSHIRE.—Perthshire is among the most extensively wooded counties in Scotland, and the landed proprietors derive a large revenue annually from the sale of various descriptions of wood. In order to show the extensive wood traffic, it may be mentioned that during May, June, and part of July, several thousand persons, consisting of men, women, and children, are employed in cutting down and peeling of oak and larch trees. The usual number of workers are busy at present in the woods of Strathearn, Strathgairn, Breadalbane, Athole, and other districts; but some difficulty has been experienced up to this date, owing to the backwardness of the season, in stripping the bark, especially of the oak trees. The hands, who are chiefly Irish, earn good wages—the men being paid at from 4s. to 4s. 6d. per day, and women's wages range from 2s. to 2s. 6d. daily. It may be mentioned that some difficulty is frequently experienced in procuring hands to work in thinly-populated localities, owing to the scarcity of lodgings, and it has been found necessary to erect rude huts in the woods, which serve as sleeping apartments, and for cooking, &c. The oak bark, which is used for tanning purposes, is sold at from £7 to £8 per ton, and larch ranges from £3 to £4 per ton. The larch wood, after being peeled, is cut up into railway sleepers, pit props, &c., and realises good prices. The wood of the oak coppice is generally sold for firewood, and ranges at from 15s. to 16s. per ton, but the heavy, or what is called the standard oak trees, are sold for shipbuilding, coach-building, making shafts, cart wheels, and for many other useful purposes. The extent of the trade in wood-peeling may be gathered from the fact that on the small estate of Balgowan alone no fewer than nine thousand larch trees of larger and smaller dimensions will be cut down and peeled this season.—*Scotsman*.

THE PRINT ROOM, BRITISH MUSEUM.—Among additions in the way of original drawings we (*Academy*) may notice a curious volume containing water-colour sketches of the costumes worn by Mrs. Siddons in the various parts in which she played in the years 1802-1803. They were executed with some care by Miss Mary Hamilton, when the actress visited Dublin, and, besides a very accurate record of all details of dress, they supply some hint of the variety and balanced grace of the actress's system of gesture. An examination of the volume confirms the statements made in Mr. Fitzgerald's biography as to the inelegance of many of Mrs. Siddons's costumes; but this effect is often due as much to the imperfect resources of the painter as to the fault of the actress. Of engravings the principal additions are portraits needed to fill gaps in the collection. One of these is an interesting portrait of *Peg Woffington*, not known or described, and a large number of Irish Portraits more or less difficult to obtain. Another set of engravings consists of foreign broadsides, and classed with these is a portrait of a certain Irish giant, *Magrat* [Magrath], born in 1717, and exhibited in Germany, but of whom no English portrait is known to exist.

THE TIMBER TRADE.—The Liverpool correspondent of the *Timber Trades Journal* writes:—"Whilst expressions of inactivity, dulness, and depression of trade are in everybody's mouth, not only with regard to the general trade of the country, but in our own especial business, a thorough perusal of the monthly statistics of the position of the state of trade in this market at the present moment will furnish a somewhat peculiar commentary. With complaints of 'nothing doing,' and that consumers are buying only what they require to meet the pressure of the moment, we have a consumption of goods such as a few years ago would have had a marked effect upon the market from its remarkable extent, and the stocks here are yet within a moderate compass. In fact, for Canadian goods the stocks are almost nominal, considering that at least a month must elapse before the spring import arrives and can be placed upon the market. The stock of spruce deals is now little more than the ordinary consumption of one month, but yet prices seem to tend downward, owing to the fear that more may come forward than the market can bear without still further depression, although the prices now current are not profitable to the shippers. The import season for pitch pine has now almost closed, and therefore the prices now asked may be taken as at their lowest. The demand is still good, and it is by far the cheapest wood now in the market. Speaking in a general manner of Baltic goods, nearly all are quieter in tone, the demand for deals and timber being affected by the lower prices at which pitch pine can be had, when it can be used as a substitute for Russian and similar goods. Prepared flooring is lower in price and stocks are heavy. In hard woods such as teak and greenheart, there is not much doing; the increase in the consumption of the latter wood for the year being owing to the

local dock works now in progress, and which influences the market in a great degree, as the production of this timber is limited.

ELY CATHEDRAL.—The general committee for carrying out the completion of the restoration of the octagon of Ely Cathedral resolved on Wednesday week to accept the plans submitted by Sir G. G. Scott for the completion of the work, and also the tender by Mr. Wood, at a cost not exceeding £2,965 10s. The work is to be begun forthwith, and will, it is believed, be executed in three years.

NOTES ON NEWCOMEN'S STEAM ENGINE (1705).

We are in receipt of a small tract from the publishers, Messrs. E. and F. N. Spon, London, entitled "Notes on the Model of Newcomen's Steam Engine (1705)," now being exhibited in the Special Loan Collection of Scientific Apparatus, South Kensington Museum. The author, Mr. Thomas Ledstone, of Dartmouth, architect and diocesan surveyor, throws some doubt upon the authenticity of this particular model, which it is said was presented to King George III. (1760-1820). He thinks "it is probable, therefore, that Thomas Newcomen the inventor of the steam engine, had nothing to do with this particular model, for he died in 1729. But his second son, Elias, who followed him in directing the erection of steam machinery, may have been engaged about a model prepared as a present to so august a personage. Elias Newcomen lived until 1765. This model bears evidence in some parts of later work." An engraving of an older model is given by Mr. Ledstone, the original of which is at present in the Museum of Glasgow University. This latter is said to be the model of Newcomen's engine which Watt was repairing when he invented his improvements. Other names are shown to have been associated with Newcomen in the invention of the steam engine. Perhaps we may in our next issue reproduce the entire "Notes," with comments.

TO CORRESPONDENTS.

MUNICIPAL ADMINISTRATION IN DUBLIN.—The evidence given before the Select Committee re Local Government in Ireland is worthy of particular notice, and, as far as it relates to Dublin, it is only a confirmation of what has often been written in these pages. On a future occasion we will most likely have a say upon some of the facts elicited and others unrevealed.

C. E. (South Kensington).—Will see you perhaps before this issue meets your view.

FOSTER AGREEMENT.—Called after the Speaker of the Irish House of Commons, having been constructed during the era of the Irish Parliament. The road through Drumcondra Hill, on the city side of the Tolka, was another work of the same era, and received the attention of the same senator.

QUERIST.—Joseph Hamilton is dead some years. He left two daughters at his death, but whether now alive we cannot say. He was the author of an "Essay on Duelling," published upwards of fifty years since, designed to put a stop to the pernicious practice. He was also the writer of some other papers and poems published from time to time in Dublin periodicals. He lived for several years in a small house called Annadale Cottage, Philippsburgh-avenue, which is still standing.

W. M., Derry.—Drawings to hand. Several correspondents must hold us excused through pressure of time and space.

NOTICE.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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PRESS NOTICES.

Athenæum.—We cannot now continue an examination of the contents of Mr. Brash's capital book. Let it suffice them that we recommend the perusal of the chapters on the churches of the Cistercian Order, Fonts, some of which have curious peculiarities, Masonry, and Early Christian Masonry. . . . Mr. Brash is a painstaking and accomplished student.

Academy.—Since Petrie gave to the public his (alas!) unfinished work on the Ecclesiastical Architecture of Ireland previous to the Anglo-Norman Invasion, the work which heads this article is the most important and valuable contribution to an interesting and almost unexplored branch of knowledge. . . . The volume does great credit to the enterprising publisher.

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VOL. XVIII.—No. 397.

The Possible Outcome of the Conference.



PART from the papers read on strictly Art topics bearing upon orders and styles, the practical outcome of the Conference will have to be judged by the visible results. The time has yet to arrive for a judgment

thereon, for the work of different minds will only exercise its influence by degrees. The most important service accomplished, however, by the proceedings of the late Conference undoubtedly lies in the direction of Social and Sanitary improvement. The series of valuable papers read at the Institute bearing upon human dwellings, their design, arrangement, and the sanitary safeguards needful for securing their proper construction and maintenance, forms a valuable contribution to the history of Social and Sanitary Reform. If the late Conference performed no other work but this, it would be sufficient evidence of its utility. Not only English provincial architects, but Irish and Scotch ones, have assisted their London brethren in the good cause which we all should have at heart; and we may confidently hope that, through the discussions that took place on the head of improved buildings, and the laws bearing upon them—morally and legislatively,—that great benefits will accrue to the rising generation.

The late Conference was deficient in one matter, which we had hoped to see discussed at some length and treated in a popular manner—the present status of the professional architect, and, *per se*, the profession itself considered as a calling, and the wants necessary to lift it up to its proper position. Perhaps there were difficulties in the way at a General Conference like the last, which need not be stated, for the surroundings of the practice of the architectural professional is suggestive of much that could be better debated and settled in council than at any public meeting.

The late Conference is likely to lead to more cordial sympathy and intercommunication between the provincial and metropolitan architects; but we are still convinced it would not be for the benefit of the profession as a whole that a centralization of interests should take place. A central institute is one thing, and of course London, from its great wealth and magnitude, must always take the lead. There is no reason, however, why the sister kingdoms should not have their own centres in their own capitals, or why other cities and large towns should not be represented by their own separate local societies. In fact, such bodies are absolutely indispensable, for we question whether architectural practice will not always more or less differ in places and be guided by local circumstances. More than forty years of steam communi-

cation and nearly a quarter of a century of telegraphic has scarcely altered any of the features of provincial practice. It certainly has not assimilated provincial with metropolitan architectural practice, although it has placed the same information and improvements within the reach of both.

Later on in the year we will probably return to a fuller discussion of topics suggested by the late Conference, and shall at present conclude by registering our opinion that the Conference, if not highly successful, was at least fruitful in one important direction.

THE ROYAL IRISH ACADEMY AND THE SOUTH KENSINGTON SCIENCE AND ART DEPARTMENT.

THE prompt and decisive action of the Royal Irish Academy in rejecting the amalgamation scheme, and in resenting the interference of the South Kensington bureau, whose officials to a great extent usurped the functions of Government, must command the sympathies of the country at large. The report of the Council, submitted at the meeting of Monday night last, giving the resolve of the Academy on the head of the correspondence that had taken place, was a fair and honourable statement. The draft petition to the Commons House of Parliament, which was carried almost unanimously, put all doubt at an end as to the intentions of our distinguished native institution in resisting an annihilating scheme. The answer given to Lord O'Hagan on Tuesday night in the House of Lords goes to a denial that the Government proposed an amalgamation of the Royal Irish Academy with the Royal Dublin Society, the Duke of Richmond asserting that the idea had arisen from a misapprehension. If the Government did not wish to force an amalgamation, who did? and who, may we ask, are directly responsible? The disclaimer on the part of the Government, if we are to accept it as such, plainly shifts the blame on the shoulders of its agents, who were entrusted with a certain defined task, and having been allowed an inch, have taken a very long ell.

The explanation given by the Duke of Richmond is, to our mind, not at all satisfactory in reference to the transference of the charge of the vote from the Irish Government to the Science and Art Department. He said that by taking the vote by the Science and Art Department of the South Kensington Museum it was to be taken on the responsibility of the Lord President, the same as was done for England, because by an Order in Council all matters connected with education were handed over to the Privy Council Office, and the Royal Commission also recommended that all votes for the Irish Societies should be taken under the responsibility of the Lord President, and not by the Irish Government.

It has already been shown conclusively that the Department of Science and Art, like the Committee of Council, of which it is a branch, is a purely educational body, and as such it has no concern with learned bodies like the Royal Irish Academy, which are established for original research, scientific, literary, archæological, and in other cognate fields. The Duke of Richmond took occasion to observe that within the last two months the Royal Society in London had been handed over a large sum for promoting further researches, and that that society would have

to account for a greater portion of the vote through the Science and Art Department, and under the Lord President of Council. Now, whatever may be thought of the Royal Society on the head of receiving a supplementary vote for scientific research, and of agreeing to account for its outlay, we hold at the same time that the Royal Society has not the least intention of subordinating itself to the South Kensington Science and Art Department. We do not like to attribute motives; but we cannot conceal our suspicion that a move has long been contemplated in respect to the Royal Society for having it subordinated to another body. All along up to the present the Royal Society of London, and the Royal Society of Edinburgh—institutions kindred to the Royal Irish Academy in objects—have been receiving their grants direct from the Treasury, and we are certain they will prefer to continue on the same footing. The grant of an increase of £4,000 to the Royal Society of London for scientific research is a handsome donation, but we are not to suppose that they are accepting it on conditions incompatible with their complete independence of other intermeddling departments. It is, however, the business of the Royal Society of London to study its own interests, and that is what is being done by the Royal Irish Academy at present. Centralization has been carried a great deal too far already in respect to the control of Irish institutions, and it is time that a stop should be put to it. The Royal Irish Academy exists irrespective of sect or party, and does its work uninfluenced by political or religious considerations, and long may it continue so.

We anxiously await further developments on the head of this misdirected Science and Art scheme, which was intended to swallow up our native institution *in globo*, and transform a distinguished native centre into branch departments.

A Museum of Art and Science, or rather of Industrial Art, is one thing, and is an object most commendable, and it can be accomplished without interfering seriously with existing institutions. Some months ago we pointed out that a well-digested scheme could be carried out; and towards establishing such an institution as was requisite for this city, the Royal Irish Academy gave proof of their willingness to assist, by offering their valuable collections on certain honourable conditions.

We will not at present carry our remarks further; but, in concluding, we will say that we are much pleased by the evidence of native feeling expressed in the literature that this Science and Art scheme has called forth. Among these contributions there is one more remarkable than the rest for vigorous reasoning, and thoroughly racy of the soil. The "Facts and Reasonings" of Mr. John Ribton Garstin (a member of the Council of the Royal Irish Academy), adduced in support of the course taken by our native institution, are powerful and irresistible.

THE BRUSSELS EXHIBITION.—At a meeting of the Executive Committee of the Society of Arts, a letter from Sir W. Knollys was read, expressing the interest taken by his Royal Highness the Prince of Wales in the success of the work of the committee, and of the exhibition, and enclosing a donation of £50 from his Royal Highness towards the committee's expenses. Other subscriptions were also announced. The arrangements in connexion with the opening of the exhibition were communicated, as also those relating to the reception officially by the authorities at Brussels of the members delegated to attend.

THE GENERAL CONFERENCE OF ARCHITECTS.

WE resume our brief summary of the concluding days' proceedings of the Conference. Elsewhere we give some of the papers read. An interesting discussion followed the reading of the papers of Mr. W. Burges and Mr. R. P. Pullan, on Wednesday afternoon—"The Importance of the Study of Greek Art and Literature to the Practice of Gothic Architecture"; and "Greek Art as illustrated by its Monuments."

The chairman (Professor E. M. Barry), in inviting discussion and moving the thanks of the Conference to Messrs. Burges and Pullan, observed that the former, with his well-known proclivities for Gothic art, treated the subject in a broad and highly appreciative way; and that the paper of Mr. Pullan was worthy of one who had accomplished much in the shape of research in relation to Greek art in Asia Minor.

Mr. Phené Spiers remarked that at the time Mr. Fergusson had read his paper on the "Erechtheum" a short time since it was intended to have discussed the question at some length, but that through the illness of that gentleman the discussion stood adjourned. As Messrs. Burges and Pullan had kindly prepared papers for the Conference, it was thought fitting that the discussion should be resumed on the two aspects of the question before the meeting. He (Mr. Spiers) did not know that in the whole course of his travels he had ever seen through every step a work so wonderful as the Erechtheum. Talking of the subject of the Parthenon instead of Salisbury Cathedral, he saw drawings on the walls showing it from every point of view. When complete, he was of opinion that the Parthenon must have been the most wonderful building ever erected. The delicate feeling of proportion which characterised it applied more or less to all Greek art. He expressed the great pleasure he had in seeing Mr. Penrose's drawings, and concluded in directing the special attention of the Conference to these drawings, some of which had been executed thirty years since, and that, notwithstanding the lapse of time, they were in a state of wonderful preservation.

Mr. Joseph Wood spoke of his latest visit to Athens, and of the beauty of the Parthenon, which he thought might in some measure be restored by replacing some of the drums of the columns. He did not coincide with Mr. Burges as to the utility to a practical architect of a visit to Athens, seeing that both the Greek and Gothic styles were so widely dissimilar.

Mr. Ordish, of Leicester, made a wonderfully amusing speech, containing withal some shrewd observations. The style of this gentleman's delivery excited much merriment, for he seemed to be as earnest as he was unconsciously amusing. He began by remarking that he had not been long a Fellow of the Institute, and that at present he was more of an "agriculturist" than an architect, but that betimes men turned back to their old love, and poked about the ruins and "fiddled" about the *débris* of things, hoping to find something out. He (Mr. Ordish) was sorry he could make nothing out of either Greek or Gothic art. The reflection dawned upon him as he stood amongst his trees and potatoes, as if the two great waves of art had gone by for ever. So had the magnificent minds that put up the great buildings of antiquity—the whole paraphernalia of their art—ad gone with them. Whole countries, like generations, were gone, superstitions and idolatries had vanished, and we had arrived at another age, with our minds clothed with a new phantasmagoria which would make us all happy. Mr. Ordish considered we were all in waiting for a chariot of fire which would take us away. He had followed Ruskin and Pugin, the pioneers of Gothic, and the magnificent Cockerell and Donaldson; but his (Mr. Ordish's) advice was to follow those things which nearly everybody laid down as the foundation of their

existence, which went to make man reverential and his life a sphere of happiness. He condemned the pursuing of chimerical notions or "rum-shaped" mouldings [what are they?]. After proceeding a little further in a like vein, the speaker was reminded by the chairman that he was travelling outside the subject. Mr. Ordish exclaimed—What is the value of Greek art to the Conference, or any other art? What was to be learned from it? For his part he was sorry to say he should go away from the room as ignorant as he came. He endorsed all that had been said in praise of the pioneers of research, such as Mr. Fergusson; he had read the latter's book with great interest, but what was the use of it? The whole subject, he considered, was as delusive as the selection of architects to adjudicate upon competitions. Once more reminded by the chairman that he was straying away from the question, Mr. Ordish sat down, exclaiming that he did so in a maze. For ourselves we thank Mr. Ordish for the infinite amusement he afforded us, and the best fit of architectural laughter we ever enjoyed at home or abroad.

Mr. J. P. Seddon followed, commenting on some of the expressions of the last speaker. He always thought and studied Greek art as being the very acme of perfection in proportion, however limited might be its aim or suitability in meeting the requirements of the present age. After commenting at some length on the plan of Greek temples, and the theories as to the *motif* of Greek art, the speaker said he did not agree with Mr. Pullan in considering Greek and Gothic as two opposite or distinct styles. He observed that M. Viollet le Duc had gone very minutely into the *rationale* of the construction of Greek architecture as well as into its aesthetic merits. Mr. Seddon said that Gothic architects did not decry Greek art, but they did decry the manner in which it was travestied by the Romans by means of sham orders stuck upon the front of their buildings. He concluded by observing that Greek architecture was useful as a school of beauty; but that the architects of the present day must bring common sense to assist them in working out the current problems of architectural construction, as had been done in former times by the Greeks and Mediævalists.

Mr. Charles Barry, after a few words in allusion to the scope of the papers read, said it was interesting to notice that both Messrs. Burges and Pullan were really inculcating the same truth from opposite points of view. He spoke of the special studies and aims represented by the authors of the two papers under discussion, and remarked upon the coming styles talked of for years as a matter that still would be talked of for many years more, for man was ever dissatisfied with what he had accomplished, and always aspired to do something better. He considered, in conclusion, that the training of the mind to think for itself, combined with the study of the beautiful, could not fail to result in the production of refined and original architecture.

Mr. Watkiss Lloyd said that his own view on the thesis that the study of Greek art and literature was advantageous to the Gothic architect, would perhaps take the direction that the student of Greek art and literature would profit by the study of Gothic architecture. The study of Greek art and literature revealed to us a people of a different race to ourselves, separated from us by thousands of years, not having the same faith as that which prevailed amongst us, and yet a race of people before whom, in many respects, we must feel humiliated. Standing some days ago in the noble and beautiful presbytery of Ely Cathedral, he felt that he was in the midst of a work of architecture which might have been produced by a Greek. In summing up, Mr. Lloyd considered that Gothic architecture was as much the descendant of Greek art as the French and Italian languages had descended from the ancient Latin, and he did not consider a new style as an impossible event.

Mr. A. J. Hiscocks had been, he said, a great admirer of Greek art for long years, and was sorry to hear that evening from Mr. Ordish's words the tendency of which was depreciation. It was unfortunate that they had not examples of private dwellings to show the elegancies, more particularly of the internal arrangements, of Greek dwellings. He envied those who had the good fortune to visit Athens. Whatever might be thought of the chances of a Greek revival, we should never, he thought, go back to the Egyptian style unless, indeed, it was for such buildings as prisons. Much as it seemed the fashion of the present day to detract "Victorian"—or whatever style it might be called,—it evinced, in his opinion, great study of Greek and Italian art.

Mr. H. H. Statham pertinently pointed out that it was remarked by Mr. Pullan in his paper that the Greek and Gothic camps were now somewhat strangely mixed up—the one using the arms of the other. Mr. Burges, a consistent follower of Gothic all his life, advised young men to study Greek art, while Mr. Wood, whose name was identified with Greek architecture, said it would do no good to Gothic architects. He took it that Mr. Burges's advice to study Greek art as well as Gothic was intended to have the effect of enabling Gothic to be treated with greater freedom, so as to be applied more successfully to the wants of the present day. Gothic he considered a sublime style particularly adapted for ecclesiastical purposes, it was also well adapted for domestic purposes. He thought valuable hints might be obtained from the Italian; but it should be remembered that here they were going on totally different principles—on the principle of scenery, and not a constructive style.

Mr. Arthur Cates, in paying a compliment to Mr. Burges on the excellence of his paper, observed that the professed admirers of Greek art generally overlooked the point which he had called attention to. Greek art was perhaps the most picturesque and the most free from trammels in the sense of hard lines, and it adapted itself to varying circumstances. Familiar as men might be with the Parthenon, the Erechtheum, and other monuments on the Acropolis, to fully appreciate Greek architecture its buildings must be studied on the spot. Whether a man devoted himself to the practice of the Gothic or Renaissance style, he held that a few weeks spent in the careful study of the buildings of the Acropolis would expand his mind and ennoble his artistic feelings. After speaking of a building lately erected in Athens from a design of M. Théophilus Hansen, an eminent architect of Vienna, assisted by Mr. Ziller, perfect in design but a failure in execution, owing to the non-observance of a principle with which the Greeks were well acquainted—the use of the entasis, Mr. Cates concluded by saying that, archaeologically speaking, it was to be regretted that all traces of Greek domestic work had passed away; but, artistically, it was not to be regretted. Mr. Pullan said that order was an essential element of every style, but how would he limit the picturesque architecture of mediæval times to the strict rules of order?

Mr. Pullan briefly explained that what he meant by "order" was the subordination of the general features of the design to some common general scheme of plan. Between the architect and the builder the difference was as to this idea of order.

The chairman, in closing the discussion, confessed it was to him a great satisfaction to find a gentleman of Mr. Burges's eminence and well-known proclivities meeting with Mr. Pullan here, and united with him to try to find some common ground between the principles of Gothic and Classic art. As regards the particular question they had been talking of that evening, *prima facie* he thought they might assume that whereas building had received the admiration of all educated men for ages, there must be something in it worthy of study and imitation. He did not mean their direct imitation, which, of course, was a difficult thing; but without imitating they might

study principles and learn lessons which they might apply in their own practice. To go to Athens was not in the power of everybody, and unfortunately even when they did get there the state of the ruins was such that they could not see the Parthenon, for instance, as they would wish to see it. When they talked of "Vandalism," they must remember the Elgin Marbles in the British Museum. If they wanted to study sculpture they could not do better than go there. There also they would see some beautiful specimens of Greek art—as, for example, some elaborate Ionic capitals. Lessons from these and other things there would not be thrown away upon them in days when there was such a tendency to coarseness in detail and roughness in execution. Mention had been made to-night of a new style. Now he agreed with Mr. Burges that to talk of a man inventing a new style was to talk nonsense. If a new style were to arrive it must be the result of gradual growth—from the application of principles studied from antiquity, but which we must apply with common sense to our own day. If that were done they would have some answer to give to those of their friends who at the Conference had asked "What is the use of all this?" He would be sorry to enrol himself as a votary of that somewhat dismal philosophy of which they heard to-day, and which would seem to think that nothing could be done with architecture because it admired trees, and was occasionally made glad by potatoes. He thought they would get a new style, not by talking about it, and not by trying to be original, any more than a humorist would make jokes when told to be funny. He thought they would get it by intelligence and common sense. It was impossible to look at Greek architecture without feeling that the architect who erected these buildings left nothing to chance. There was no shirking their work. We find, said the chairman in conclusion, Greece giving lessons to all classes—to the statesman, to the poet, to the philosopher, as well as to the artist, but all that was not sufficient to maintain Greece in its palmy state. Where is Greece now? Unfortunately in a very different state from that in which we should hope to see her in consequence of all these artistic virtues. I think we, therefore, may learn that there is something else wanting, and it is our business in the nineteenth century to see whether we cannot supply that which is wanting, while availing ourselves thoroughly of all the experience which the past afforded.

A vote of thanks to the chairman brought the meeting to a close.

FOURTH DAY.

On Thursday the Conference meeting was held at three o'clock. Mr. John Whichcord, F.S.A., presided. The following papers were read:—"General Building Regulations for the United Kingdom," by Mr. J. Honeyman, of Glasgow, and Mr. J. Clarke, C.E., of Liverpool; and on "The Registration and Classification of Houses," by Mr. Henry Parsons, of London, and Mr. J. Sellars, of Glasgow. All of these papers in view of sanitary legislation and reform were of an important character, and elicited, on the part of several architects in the discussion that followed, much information and some valuable suggestions.

The chairman, in opening the proceedings, said they had to consider two very practical subjects, and he was pleased to find that three out of the four papers to be read were by gentlemen from provincial towns. He ventured to think both of the above subjects merited the serious attention of this body in the city and provinces. In regard to the second subject on the programme—the Registration and Classification of Houses—the chairman remarked it was a somewhat novel idea, but he regarded it as closely connected with the registration and classification of another class of structures, namely, ships. He could see comparatively little difference between the classification of buildings and that of ships. In relation to the first sub-

ject, he said it was one which every architect throughout the kingdom must have material interest in promoting.

The secretary then read some correspondence that passed between the Institute and the Local Government Board in view of legislation upon the subjects before the Conference.

After the reading of the first two papers, a discussion thereon followed.

Mr. Porter remarked that the Metropolitan Building Act was inapplicable to the suburbs of London. He said it was almost impossible to build houses in the suburbs without coming into contact with the Metropolitan Board of Works at nearly every stage. Sanitary regulations were not in the Metropolitan Building Act. Around London they all might see buildings erected upon a subsoil of ashes, with the most wretched foundations. He thought the Metropolitan Act should provide that a concrete foundation should be put in in such cases. In other instances he saw party walls put on clay soil with two inches or three inches of water and the same damp arising. Drain pipes were laid without any closing of the socket joints, and the sewage percolated through the floors. The professional man was prevented from doing many useful things, while the speculative builder did what he liked with impunity. He thought that more instead of less discretionary power should be given to district surveyors. He did not think there was any provision as to timber houses in the Building Act; and, from many cases that came under his observation, he asserted there was great risk from the inadequate scantlings of timber put in buildings.

Mr. T. Drew, R.H.A., Dublin, in following the line of the previous speaker, said that in Dublin there was no Building Act, and that the evils there had grown so much from its absence that steps were now being taken to provide for the crying want. He, therefore, approved of many suggestions in the paper just read as far as they related to a General Building Act, and in the case of Dublin he considered it would be a great boon to that city. London proper was but a small portion of the metropolis, but Dublin consisted of the city and independent townships, amounting to a very large area with a population of some 350,000. Objection had been made that under corporate bodies the chief object of promoting such an act would be to create local patronage, and not with a view to the general good. Considering this, he disagreed with the opinion that district surveyors should be solely restricted to the duties of their office. In his opinion, being in independent practice gave an individual a position which was valuable in relation to the duties of district surveyor. There was one point alluded to in the paper which was new to him, that was the proposal to appoint referees. There were so many points of difficulty; but he could go as far as to say, having no Building Act in Dublin, they had nothing to define what constitutes a party-wall. At the same time, he thought the appointment of referees in the case of the working of the Building Act would tend to take away the practice from the legal profession, and that was a point he cordially approved of. Later on, when he had heard more on the subject under discussion, he would, with the permission of the Conference, move a resolution.

Mr. Roger Smith dealt at some length with certain aspects of the question. The greater part of Mr. Honeyman's paper was devoted to the status of district surveyors in carrying out the provisions of the act, and he dissented from several of the views expressed. He thought that London was differently situated to other cities, and should be left alone. With regard to London there could be no greater mistake, in his opinion, than altering the status of district surveyors or substituting for them a class of officers which Mr. Honeyman recommended. In large cities like Edinburgh, Glasgow, Dublin, and Liverpool they might succeed in obtaining district surveyors from the same class as they did in London. The object of the

Building Act was not to supersede private surveyors. If people put up buildings without science they should take the consequence. Building Acts were framed for public safety, and the act improved as suggested might be taken as the basis of the administration of three or four large towns. After touching upon several cognate questions, on matters relating to foundations, materials, and sanitary requisites, Mr. Smith concluded that in all probability the establishment of referees might be made very useful, and a very satisfactory feature in any act, but those who remembered the working of the Metropolitan Building Act preceding the present one would be aware that the impossibility to make the official referees a practical body was the cause of the repeal of that act.

Mr. Arthur Cates followed, and spoke of the action of the Local Government Board and of the Institute to meet the difficulties spoken of by the framing of a code of bye-laws. He thought if a general code could be established it would be a great advantage to the country. After some other observations as to the obstacles that stood in the way, Mr. Cates said he considered there could be no better centre than the Institute of Architects to which the experience of the architects of the country could be brought, digested, and arranged. He would give his support to Mr. Drew's proposition when brought forward, that the bye-laws in question should be referred to the council. The form of resolution which occurred to him was as follows:—"That the Council of the Royal Institute of British Architects be requested to appoint a committee to consider the subject of General Building Regulations for the United Kingdom, who shall communicate with the provincial architectural societies and the Local Government Board, and report at the earliest period to the Council for the information of the profession."

Mr. Drew hoped that the Conference would not separate without approving some general principle. He thought it would strengthen the hands of provincial societies if some resolution of that kind were passed. He would move—"That this meeting approves that a general Building Act regulation, applicable (within certain limits) throughout the kingdom, is desirable."

The above resolutions were put and unanimously carried; and Mr. Hansard, in proposing a vote of thanks to the authors of the papers, expressed a hope that architects generally, particularly those in the provinces, would communicate their ideas on this subject to the committee which would no doubt be appointed.

Mr. Honeyman, in replying, said he had heard nothing to strike his conviction in the soundness of his proposition that the duties of district surveyors should be limited to those of his calling. He feared that the question was not popular with the greater part of his audience. If the General Building Act were not wanted for London, let it be exempted. He did not think that Mr. Roger Smith mentioned any practical reasons why a surveyor should be a practising architect, except that it reduced the friction of the matter. On the other hand, Mr. Cates said it was possible to frame bye-laws which could be brought into operation perfectly well by such a class of surveyors as he (Mr. Honeyman) indicated. Another point in connection was, that in the country it would be difficult to find a class of men for surveyors who were readily found in London, and probably in some large towns; but they after all formed but a very small portion of the country.

Mr. Henry Parsons next read his paper on "The Registration and Classification of Houses," and Mr. J. Sellars followed with a paper on the same subject.

The chairman invited discussion, saying it was more novel than that which previously came before them.

A brief discussion followed, in which Mr. Collins, Mr. Douglass Mathews, Mr. Porter,

Mr. Anderson, and others took part. The first-named gentleman commenced by saying that the subject was not quite so novel as the chairman had anticipated, remarking that it had occupied the attention of two bodies—the Medical Association, and the Social Science Association, and in both committees had been appointed to consider the subject. It was thought if every house was bound to have a habitable status to be indicated by the certificate of district surveyor or Boards of Works, any person who wished to purchase a house might at once see the character of the building he bought. He did not agree with the whole scope of Mr. Parsons' paper, but he concurred in the general principles which it set forth. Mr. Collins, in concluding his remarks, kindly offered to place any papers and information collected by the bodies alluded to at the disposal of any committee appointed by the Institute.

Mr. Douglass Mathews held there was nothing of more importance in a house than that it should have a good foundation, and nothing was more difficult to ascertain afterwards. After detailing his own experiences of certain house-building transactions in London, he concluded by saying it was a matter not only affecting them as architects, but also affecting the health of the people, more particularly with regard to foundations constructed in a manner to comply with the sanitary requirements of the case. He was, therefore, entirely in favour of the registration system suggested.

Mr. Porter concurred generally. The idea of certificates he considered an extremely valuable one. They had plenty of law, but the difficulty was to put it in force. Mr. Parsons had suggested there should be three classes of houses. If "extra-first" were stipulated for there might be a clause that that class should only be built under proper professional supervision. In the second and third classes he feared a difficulty would crop up in enforcing the necessary supervision; but in respect to the first class, he thought the Institute might make a strong point of professional supervision.

Mr. Anderson then proposed votes of thanks to the authors of the papers, expressing, at the same time, a hope that the ventilation of the subject would lead to practical results.

The chairman, in replying on the subject generally, pointed out the defects of the Metropolitan Building Act. He corroborated the statements of previous speakers as to the practices of scamping builders. To his knowledge hundreds of buildings were erected on consolidated mud taken from the river. There were many defects in the existing act which required to be remedied, and in any reconstructed act it might be made to include this novel idea of the classification and registration of houses, similarly to Lloyd's List with regard to shipping. The certificate spoken of would be of such value to persons purchasing property that there would be no difficulty with reference to the small charges incident. He trusted, in conclusion, that the papers read and the interesting discussions that had taken place would result in something practical being carried out.

Mr. Parsons briefly replied to the vote of thanks to the authors of the papers, and the Conference proper terminated.

EGYPTIAN ARCHITECTURE.

The evening meeting held at the Institute was for the purpose of hearing a paper read by Mr. Phéné Spiers before the Society for the Encouragement of Fine Arts, on "Egyptian Architecture." The paper was well illustrated by a large number of drawings and sketches executed by Mr. Spiers himself, but several were contributed by Professor Donaldson, Hayter Lewis, Mr. Cooke, and others.

Dr. Richardson occupied the chair, and the audience was large, including a number of ladies. Mr. Spiers' lecture covered a wide field, from the earliest types of the habitations of mankind down to the latest developments. Huts, caves, tombs, and temples

were described, inclusive of the pyramids. In the course of his lecture, Mr. Spiers spoke of the wonderfully conservative principle which guided the Egyptian architects, and which in some measure, he thought, might account for the comparatively slight changes in the Egyptian style of architecture during the 3,000 years it held sway. In concluding a long and very interesting lecture, Mr. Spiers alluded to the "Vandalism" that was now being carried on by travellers and visitors, who now destroy whole bas-reliefs in order to carry away small fragments.

A discussion followed, in which the Rev. Mr. Brock, Mr. D. Seymour, Mr. Carpenter (lately returned from Egypt), Mr. Wood (the discoverer of the Temple of Diana at Ephesus), Mr. Statham, and others took part. The chairman closed the proceedings with a few observations; a vote of thanks having been passed to Mr. Spiers for the great industry he displayed in handling his subject, and the beauty of the drawings by which he illustrated it.

The programme of Thursday included a visit to Westminster Abbey, which was made early in the day, previous to the Conference meeting, by a number of architects and visitors. Sir Gilbert Scott delivered an excellent address, fully illustrative of the different architectural features of the Abbey, and all the phases of style from and anterior to the Norman Conquest down to the latest development of Gothic architecture.

THE INSTITUTE DINNER.

Although the proceedings of the Conference of Architects for all practical purposes came to an end on Thursday, the 15th ult., the dinner of the Institute, held at St. James's Hall, gracefully closed the Conference. The chair was occupied by Charles Barry, F.S.A., president. A large number of metropolitan and provincial architects and other gentlemen connected with different learned bodies and public departments were present. The usual toasts were proposed and responded to. Among the speakers were Major-General Scott, Captain Hayward, Sir John Gilbert, Mr. Ouvry, Professor Kerr, Professor E. M. Barry, Canon Barry, the Right Hon. the Lord Mayor, Mr. Beresford Hope, M.P., &c.

Sir John Gilbert responded on behalf of Art; Mr. Ouvry, the President of the Society of Antiquaries, on behalf of Literature; and Professor Kerr on behalf of Science. "The Royal Institute of Architects" was coupled with the name of Sir Gilbert Scott, R.A., to which toast that gentleman briefly responded. Mr. Beresford Hope, M.P., who had responded to the "Houses of Parliament," proposed "Success to the Conference," which was spoken to by Mr. Douglass Mathews, one of the secretaries. Toasts to the "Visitors," and to "The Secretaries of the Institute," the former proposed by Mr. Whichcord, and responded to by Mr. Poynter, A.R.A., and the latter proposed by Mr. Octavius Hansard, and spoken to by Messrs. Cockerell and Eastlake, brought the proceedings of the Conference dinner to a close.

NEW CATHOLIC HALL, LETTERKENNY.

THIS building, of which we gave exterior and interior views with last number, has been erected in Letterkenny, County Donegal, to supply a want long experienced, as heretofore there was no accommodation for large meetings, lectures, concerts, &c. On the ground floor of the building next the street is a news room and behind it is a school, the entrance to which is through gateway at side of hall; and in a basement storey under the school portion of the building are a billiard and caretaker's rooms. The hall itself, reached by a spacious hall and staircase, is the entire length of building, excepting the portion screened off at one end for lobby, cloaks, lavatory, &c. The dimensions are in clear

56 ft. by 80 ft., and, judging from the interior view, the height is in good proportion to the width. The ceiling is covered and sheeted with pitch pine laid diagonally. The cost will be about £1,600, exclusive of fittings, and the money is being raised by voluntary contributions. The architect is Mr. Timothy Hevey, F.R.I.A.I., of Alfred-street, Belfast; and the contractor is Mr. Harkin, of Letterkenny.

GRANT IN AID OF SCIENTIFIC INSTITUTIONS.

It is announced that in addition to the Government grant of £1,000 per annum made to the Royal Society to enable that body to defray the expenses of scientific investigations considered by a committee of the society to be worthy of such aid, it has been proposed by her Majesty's Government to grant an increase of £4,000, leaving the conditions under which the original sum is administered undisturbed. The former grant is expended in aiding investigators to provide themselves with apparatus and assistance, but never in personal payments to the investigators themselves. By means of the additional grant, it is now proposed in certain cases to make personal allowances to gentlemen during the time they are engaged in their investigations. This experiment it is proposed to try for five years. The administration of the increased grant has been undertaken by the Royal Society, on conditions laid down by Lord Sandon.

We wonder how much, in addition to its annual dole, will our recalcitrant and spirited Royal Irish Academy receive for purposes of Scientific investigation!

SOCIETY OF ANTIQUARIES (SCOTLAND).

A PAPER by Mr. Hercules Linton, of Dundee, was read at the last meeting of this society, detailing the results of investigations recently made by him among the remains of early settlements in the sand hills of Calbin, in Morayshire. On one of these sites Mr. Linton found evidences of a lengthened occupation and of a considerable industry in the manufacture, in a bronze-like metal, of such articles as needles, bodkins, clamps, rivets, brooches, belt-tags and buckles, chains, hooks, and studs, and vessels made of thin sheets of hammered metal. These were mingled with fragments of crucibles, slag, and pourings of the melted metal, indicating that the manufacture was carried on upon the spot. Indiscriminately mixed with these were flint arrow-heads, flint chips, and flakes, indicating a manufactory of these implements, and fragments of mediæval pottery, iron knives, fish-hooks, rivets, and small scale-like plates resembling those of the "brigantine jacket" of the fifteenth and sixteenth centuries. Over the area on which these things are now found there seemed to have been a layer of a light alluvial soil, 3 or 4 ft. thick, which has been blown away, leaving the later and earlier remains mingled on the surface of the gravelly beach which formed the substratum. Near this is a shell mound, with layers of shells alternating with layers of sand, the shell beds being from 9 in. to 3 ft. in thickness, and the intervening layers of sand from 6 to 18 in. in thickness. The shells are of edible species, and are mixed with fish bones, and bones of the ox, sheep, and dog. Close by is a cairn of broken stones 20 ft. in height and 60 in diameter, round which Mr. Linton found a number of flint arrow-heads, scrapers, &c. A large and interesting collection of the objects found by Mr. Linton was exhibited. Mr. James T. Gibson Craig exhibited a fine specimen of a very rare and curious carved ivory pyx, or cup with cover, ornamented with beaded work and figures in relief of birds, serpents, lizards, and human figures.

LECTURES ON ARCHITECTURE.*

(Continued from page 178.)

VITRUVIUS speaks of Roman houses as if their arrangements were too well known to need description, and this was doubtless the case in his time. We should have been very glad, however, if he had told us more about them, as without the discoveries at Pompeii his account would not be very intelligible. Thanks to the latter, we can now understand that the general distribution of parts was made according to a common custom, and that the houses of patrician and plebeian showed the same principal divisions, however much they might differ in details or decoration.

Bearing this in mind, let us proceed to examine the arrangements of the Roman habitation.

For this purpose I will refer you to a plan which I have had prepared of an ideal house, founded on the discoveries made at Pompeii, and on the general information derived from Vitruvius and from the excavations at Rome. I have supposed it to have belonged to a wealthy patrician living in Rome. You can compare it with the plans of houses actually existing at Pompeii, and called after the names of Pansa, Sallust, and Diomede, which are also before you, and which will explain the authority for various parts of it.

Taking first the leading principles, we shall find the house divided into two great divisions, the public and the private. The Romans, while fond of public life, were jealous of the privacy of their domestic arrangements. As regarded the public portion of their houses, access was readily attainable, but they were not accustomed to entertain guests, and when they did so lodged them usually in separate buildings rather than under their own roofs, although they occasionally accommodated them in rooms round the *atrium* or outer hall.

The division, of a more or less public character, contained the entrance, the hall, and some of the surrounding chambers and corridors.

In the case of palaces, or houses of importance, there was usually an open space in front. This was called the *area*. It was sometimes planted, but more often laid out architecturally, and ornamented by statues or fountains. You will find the traces of this arrangement in the numerous piazzas, or open squares, of modern Rome.

Opening from the *area* was the principal entrance, approached by a portico or colonnade, which was sometimes arched. This adjunct, so useful in southern climes, served also to give dignity to the mansion to which it was the entrance. It was only applicable, as it would be among ourselves, to the more important buildings. At Pompeii it is not found, as the space in that small town is too much occupied to allow of it. In such cases the houses had no piazza or *area*, but there was sometimes a small porch or portico opening on the public street—as in the building which goes by the name of the house of Diomede. The latter feature was, as I have said, at first reserved as a privilege of the great; but after the time of Nero it became common, and was in ordinary use in the improved houses built at Rome after the great fires of that emperor's reign. The porticoes served to break the monotony of the streets, and afforded an agreeable shade, not only to the entrances of the houses, but also to the shops which usually flanked them. At Pompeii the streets are too narrow for porticoes, and their monotony and poverty of architectural effect are mainly due to this circumstance.

Between the portico and the *atrium* we find the vestibule serving as an out-door waiting-room or approach to the house. This arrangement is not without architectural importance. However striking a building may be, the eye requires to be gradually introduced to it, and the effect of an interior is greatly enhanced by a proper mode of approach. In the

palaces of the Romans vestibules were usually found, and Vitruvius says that in the mansions of great people they should be spacious and dignified. In smaller houses the vestibule was, of course, on a reduced scale, and was sometimes altogether omitted. In Pompeii it is found occasionally, but not in any case of large size. The arrangement of a vestibule is still found existing in the great churches of Rome, such as St. John Lateran and St. Peter's. It is, of course, only suitable on an extensive scale to important edifices of considerable dimensions, and of some architectural magnificence.

Entering the portico, and then the inner doorway through the vestibule, the great hall or *atrium* is seen beyond; but between the door and the *atrium* is a corridor or outer hall. This latter was called the *prothyra*. It was not only the entrance to the house, but also served as a means of access to the apartments on either side, which in small houses were sometimes shops, where the proprietor sold the produce of his farm or other property. In large houses they served as inner vestibules, or rooms for porters or slaves. The possession of a doorway in the street being reserved as a special mark of honour, the meaner dwellings had to be content with doors from the *prothyra*. There were in some cases more than one door, so that the master of the house should not be obliged to pass through the crowd of servants or dependents who thronged the vestibules and outer corridor of the mansion. In the *prothyra* was the place for the porter, or the guardian of the door, and sometimes a dog was kept there. It was this custom which led to the representation of dogs in mosaic or in painting on the floor or walls, as we find in some cases at Pompeii.

We now come to the distinctive feature of a Roman house, the hall, called the *atrium*, or *cavadium*. This was the central feature of the public division of the building, and the name of *cavadium* thus came to be applied sometimes as a general term for the portion to which access was commonly allowed, much as we say now-a-days "under my roof," to include every part of the house. The *atrium* was a collection of small rooms, forming a hollow square, with a court in the middle. It was a place of general resort, to which access was readily permitted. Here business was transacted, appointments made, and complaints heard. It was decorated with family portraits, or other paintings, and sculpture. Originally it was also the living and eating room of the family, but in later times separate apartments were appropriated to those purposes. The *atrium* then became a waiting-hall, and place of assemblage for clients and dependents, who passed much of their time in it in attendance on their patrons. The *atrium* was, in fact, common to most southern habitations of any importance. It is supposed that it was known to the Jews, and adopted by them during the time of the Roman conquest of Judea. St. Matthew tells us that St. Peter followed our Lord into the hall of the high priest, and this description would seem to point to an arrangement such as I have been describing.

Vitruvius attaches great importance to the *atrium* or *cavadium*, and speaks of five different designs as being in common use. Those are—(1) the *Tuscan*; (2) the *Tetrastyle*; (3) the *Corinthian*; (4) the *Displuvium*; and (5) the *Testudinatum*, or covered. A few words may be given to the description of these varieties, which are shown on some of the diagrams.

The *Tuscan atrium* had its roof supported by four beams crossing each other at right angles. The centre was open, and this was called the "*compluvium*." The roof, or rather the four roofs, covered the sides only, and sloped from the walls to the beams, being of the description known to us as lean-to roofs, such as you commonly see over the aisles of a church. The water from these roofs was conveyed into a shallow basin in the centre of the *atrium*, which was known as the "*impluvium*." This is the oldest and simplest type

of *atrium* known, and is the form most common in Pompeii. It was an addition to Greek arrangements, for the *atrium* is believed to be a purely Roman invention. In the houses of the Greeks there was not the distinction between the public and private portions of the building which distinguished the Roman houses.

The next description is the *Tetrastyle*. It is very similar to the *Tuscan*, but is adapted to larger dimensions by having columns placed at the right angles of the *impluvium* to sustain the weight of the roof. It was only a step from this arrangement to a regular colonnade, which latter is called by Vitruvius the *Corinthian atrium*. Rows of columns surrounded the *impluvium*, which became a larger and more important feature, and this was the means of affording light and air to the various apartments placed around the *atrium*.

In all these types the roofs inclined inwards, and conducted the water towards the centre, which was occupied by the *impluvium*. There was, however, another arrangement known as the "*Displuvium*," by which the water was directed outwards and away from the centre. The *impluvium* was no longer necessary, and its place was supplied by fountains or sculpture. The last species of *atrium* is the *Testudinatum*, or that which was entirely covered. In this case the roofs sheltered the whole area within the four walls of the *atrium*. There was no open space or *compluvium* in the centre, nor was any *impluvium* necessary. Light was probably introduced by means of openings over the columns, after the manner of a clearstory, and it is evident that this mode of arranging the *atrium* is susceptible of a large amount of decorative architectural design, and is suitable for our own use in houses of importance.

The *tablinum* was an important feature of a Roman house. This was a room at one end of the *atrium* which was dedicated to images of ancestors, inscriptions in their honour, and pedigrees. The patricians prided themselves greatly on the contents of the *tablinum*, and the possession of one well filled with records of family honours was one of the recognised social distinctions of the day.

The rooms at the sides were called *alæ*. They were decorated in a similar way, and served as waiting-rooms or sitting-rooms, or even as guest-chambers, in houses of moderate dimensions.

The space at the end of the *atrium*, between the latter and the private portion of the house, and, indeed, the passages and corridors generally, were known as the *fauces*. There was commonly an altar in or near the *atrium*, dedicated to the lares, or household gods. The chamber in which these figures were placed was called the *lararium*, and sometimes served also as the *bibliotheca* or library. In some cases, where there was no space for an altar, a painting on the wall sufficed, and indeed the altar was a corruption of original simplicity, for, by the old laws of the Republic, the worship of the gods was only to be offered in the temples or sacred shrines.

Passing by the altar we may now, by means of the *fauces*, leave the public portion of the building and examine the more domestic apartments where the family resided, and where are placed the eating-rooms, the bedrooms, and the women's quarters, baths, &c.

The most striking feature here is the peristyle. This was an uncovered court, treated generally as a garden, and surrounded by colonnades. The rooms opened out of the peristyle just as we see still in the older Italian inns.

The bedrooms, or *cubicula*, around the peristyle had little in accordance with modern ideas of comfort. They were evidently resting places only, and were little larger than a sleeping cabin of a ship, being commonly less than 10 ft. square. Bronze bedsteads have been found at Pompeii, and these were often arranged in alcoves, a common plan on the continent to this day. The *cubicula* in the better kind of houses were sometimes

* Third lecture. By Professor E. M. Barry. Delivered at the Royal Academy, London, on 9th of March. See ante.

approached by an ante-room, which served to shut them out from the open peristyle and secured some sort of privacy. An eastern aspect was thought the best for the bedrooms, so as to be exposed to the first rays of the sun, which were considered to be the most health-giving.

The dining-room went by the name of *triclinium*, the title also of the couch in which the later Romans reclined at meals. The original name of the room was *dieta*, or *cenaculum*, the latter being derived from *cena*, already referred to as the chief meal of the day, which was taken between four and five in the afternoon. It was usual for those who could afford the luxury to have two or even more *triclinia* suitable for the different seasons of the year. The Romans did not entertain large parties, nine being the maximum number that could be ordinarily accommodated with convenience. Great feasts when given were served in the atrium. Women did not ordinarily share in these hospitalities at the time of the destruction of Pompeii, though they were accustomed to sit at table until the time of the Cæsars, when the habit of reclining at meals became common.

The dining apartments were often highly decorated with paintings and sculpture, the figures of Bacchus and the lares being among its ornaments. Among the very rich and luxurious arose various curious devices for adding zest to the pleasures of the table, and there are records that in some cases rope-dancers performed their evolutions over the heads of the guests, a form of entertainment likely, one would think, to cause the latter some anxiety. In other cases we read of moveable platforms to be let down at the proper time with showers of perfumes and flowers. The *triclinia* were covered with quilts, more or less elaborately embroidered, and the guests reclined upon them, on three sides of a small central table, of wood or marble.

In connection with the peristyle were the private sitting-rooms, or *æci*, which were in accordance with the style of the house. They were sometimes ornamented with columns after the manner of the *atrium*, but were, more ordinarily, of modest dimensions and decoration. A larger room, termed the *exedra*, served as a place of general resort or conversation. There were also in grand houses a *pinacotheca*, or picture-gallery, and a separate *bibliotheca*, or library. The Romans were not a reading people, and very little has been discovered at Pompeii of a literary character. At Herculaneum, however, manuscripts have been found in considerable numbers. It is possible, therefore, that further researches at Pompeii may bring to light more information under this head.

Baths were not uncommon in good houses, and were fitted up occasionally with great luxury. They were placed in a retired corner, and were heated in the same manner as the public baths. In the house of Diomedes, the ruins of the baths are very perfect, and enable us to understand the elaboration of this portion of the plan in the mansions of the wealthy. The baths have their own little court with a colonnade, sometimes circular on plan; and grouped around this court are the various bathing chambers constructed in general accordance with the arrangements which I have already described in treating of the public baths.

The baths sometimes, though rarely, occupied a basement storey. The slaves were also often placed here. Their quarters were called the *ergastulum*, and were little cared for, either as regarded convenience or healthiness.

We have seen that in the public division of the house one altar was commonly dedicated to the gods. In the private division, and often in the most secret corner of it, was another oratory or chapel. This was called the *sacrarium*, and was especially sacred to the particular divinity, often of a questionable character, to whom the family, or a part of it, was most attached. This little retreat was generally highly decorated.

Attached to the mansions there was in some cases a garden, or other uncovered space, for walking and exercise. This was called the *xystus*, and was planted with flowers and shrubs. There was also occasionally a room for tennis, or athletic exercises, called a *sphæristorium*, and another for games of chance, called an *aleatorium*. Several sets of dice have been found at Pompeii, and some of them unfairly loaded.

In the above description of a Roman house I have kept to the arrangements of town buildings, such as may be seen exemplified in Pompeii. For such features as are not common there we have the authority of the fragments of the plan of ancient Rome, now preserved in the museum of the Capitol. This plan, which is engraved on marble, is believed to have been executed about the time of the Emperor Severus, and shows the style of the buildings erected both before and after the great fire which occurred in the reign of Nero. Until that date no attention seems to have been paid to the means of preventing the spread of fire, but afterwards the buildings were laid out in isolated blocks. This plan is very interesting, as it shows an almost exact similarity between the domestic architecture of Rome and Pompeii, and we are thus able to assume that the latter forms the key to the former.

Country houses were, doubtless, far less uniform in their arrangements than those in towns, just as is the custom among ourselves. The *atrium* and public rooms were often much modified, or altogether dispensed with. At the same time, the disposition of the other parts of the house must have been essentially similar to those in towns, for the habits and manners of the people were the same in both.

We have now passed in review, though necessarily in a very imperfect manner, the chief buildings of Pompeii, and have been enabled to picture to ourselves something of the daily life of its inhabitants.

(To be continued.)

NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.*

We shall here digress, leaving our actors and actresses both on the stage and off to rest, while we go back for several years to take note of a few dramatic authors whose plays had contributed much to the glory of the Drama, and to the success of many of the players whose performances we have reviewed. To Richard Flecknoe the Stage owes a remarkable essay and four or more plays—"Demoiselles à la Mode," "Erminia," "Love's Dominion," and "Love's Kingdom." It was to the latter play that his able discourse was attached, and it is one of the earliest on the subject in the English language. In what year Flecknoe was born we have no evidence, but his death is put down in 1678. Under the name of MacFlecknoe our author is pilloried by Dryden in his famous satire upon Shadwell, but though he was dubbed by some contemporaries as the "Prince of Dulness," and an unthinking posterity has taken up the echo, Flecknoe was the very reverse of a dull man. He was an Irishman, and poor, and a Roman Catholic priest to boot; and, when we remember the age in which he wrote, no wonder need be felt that poor Flecknoe was under a cloud, and was even a target for some of his own creed. There are not much materials, as far as we are aware, for a biography of Flecknoe. In 1665 he published a work, entitled "Sixty-nine Enigmatical Characters: all drawn to life from several persons, humours, dispositions, pleasant and full of delight. The second edition by the author, R. F., Esquire. London, printed by William Crook, at the sign of the Three Bibles, on Fleet Bridge." There is a short dedication in this work to Beatrix, Duchess of Lorraine, signed Rich. Flecknoe. The "Characters" are nearly all in prose, and the following is the opinion of them,

written by the Duke of Newcastle, prefixed to the volume:—

"Flecknoe! thy 'Characters' are so full of wit
And fancy, as each word is thronged with it.
Each line 's a volume; and who reads would swear
Whole libraries were in each Character.
Nor arrows in a quiver stuck, nor yet
Lights in the starry skies are thicker set;
Nor quills upon the armed porcupine,
Than Wit and Fancy in this work of thine."

Only one of Flecknoe's plays was acted—that to which his Essay on the Stage is annexed. In England he seems to have laid aside his spiritual character, though he is supposed to have preserved close relations with the Roman Catholic nobility and gentry. Flecknoe's appearance when at Rome is burlesqued by Marvel in some curious lines; but, despite the satires of Dryden or Marvel, the "Prince of Dulness" was far more lively than his critics. Here is Flecknoe's own description of "A Dull Fellow":—"He is the mute of the company, and only plays a part in the dumb show; or if he says anything, like a pump he labours for it, and presently his spirits sink down again and leave him dry. He sits nodding in company like a sleepy person over watcht, and rouse him with a question he stares on you like one newly awakened out of sleep. He looks with his mouth, and thinks you would sell him a bargain; ask him anything and 'tis impossible to ask him anything he understands. If he be bookish withal, he is yet the greater dunce, being like a narrow-necked bottle hastily turned downward. Like a dull horse, let him go on his own pace and he advances somewhat; but spur him as through diffidence of his strength, his wit fails, tongue shuffles, falters, trips, and falls flat down at last, never arriving at a period."

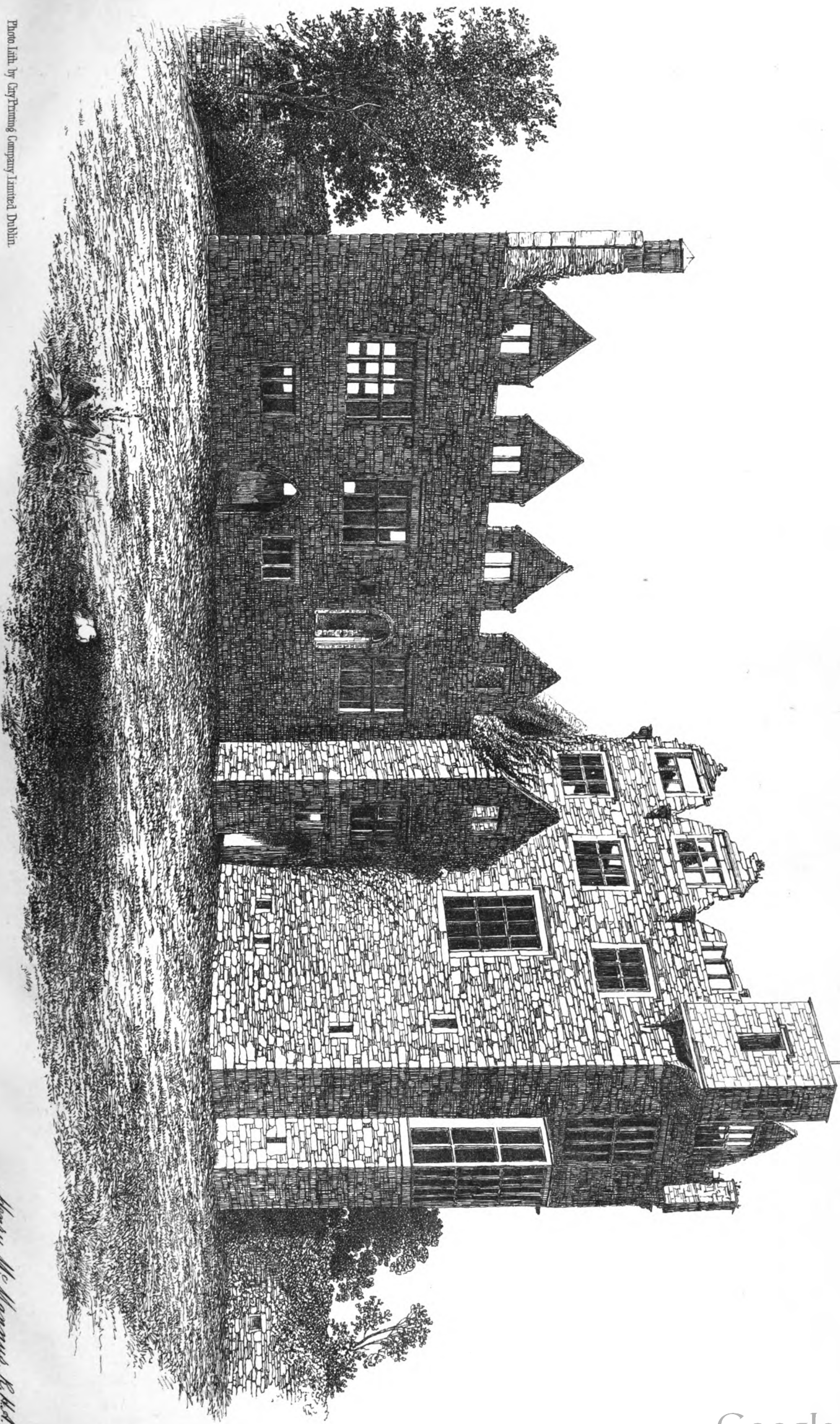
There is part of a sentence in the above description of a dull fellow which seems to have been improved upon by Swift, if we remember aright. If we are not mistaken, one of the sayings of the witty Dean of St. Patrick's, often quoted, and very applicable, is—"Narrow-minded men are like narrow-necked bottles—the less they have in them, the more noise it makes in pouring out." Among Flecknoe's "Characters" there is one bit of poetry descriptive "Of a Natural Beauty," sufficient to earn for him the true name of a poet. There are also some other of his poetic effusions far above the standard of mediocrity. It is quite possible in this age of literary research fuller evidence will be forthcoming some day to do justice to the badly-used and shamefully-abused name of Richard Flecknoe.

The name of Nahum Tate belongs both to the seventeenth and eighteenth centuries—1652–1715. He was another of those unlucky Irishmen who fell under the shafts of satire, being selected by Pope as a favourite target. Tate was born in Dublin, and appears to have received his early education in Belfast, and to have entered Trinity College, Dublin, at the age of sixteen. He was throughout his life nearly always in poor circumstances, and was indebted to the patronage or charity of the Duke of Dorset. His writings, principally poetry, cover a great variety of subjects. He executed a translation of the Psalms in conjunction with another of our countrymen, Dr. Nicholas Brady, and this translation is still used in the Church of England. The second part of Dryden's "Absalom and Achitophel" is a work of Tate, though doubtless it received some finishing touches from Dryden. On the death of Shadwell in 1692, Tate was appointed poet laureate to William III. In connection with the Stage, Tate was the author of nine plays; but how many of them were acted, we cannot say. It is worthy of note, however, that Tate's alteration of Shakespeare's "King Lear" has long kept possession of the British Stage, despite the numerous innovations and interpretations of home critics and English and Italian actors.

Another celebrated Irish dramatist, and a native of Dublin, was Thomas Southern. Although living down to 1746, and dying at a ripe old age, Southern's birth dates back to 1660. Educated in Trinity College, he left for London in his eighteenth year, and en-

* See ante.

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DONEGAL CASTLE.

Henry. Mc. Namara. R.H.A.

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tered the Middle Temple. The law, however, had little attractions for him, for as early as 1682 he is engaged in writing his first play, "The Persian Prince," which was acted in the same year. The Loyal Brother in this play, we are told, was intended for the then Duke of York, who afterwards, as James II., did not forget Southern's compliment. Next came "The Disappointment," a comedy, which was acted in 1684. Southern did service in the army for some time, and we find him holding three commissions in the regiment of Lord Ferrars. His appointments and the profits of his plays brought him considerable gain; one of his plays is said to have brought him £700, which was seven times more than Dryden himself received for any of his pieces, according to his own statement. Throughout his career, Southern made and retained many friends, and his name often cropped up in the letters and poems of Gray, Pope, and other contemporary characters.

Here is a description from one of the letters of the author of the celebrated "Elegy in a Country Churchyard." Writing to Horace Walpole in 1737, from Burnham, in Buckinghamshire, Gray says:—"We have old Mr. Southern, with a gentleman a little way off, who often comes to see us. He is now seventy years old [77], and has almost wholly lost his memory, but is as agreeable an old man as can be, at least I persuade myself so when I look at him and think of Isabella and Oroinoka." Pope, five years later, celebrated Southern's birthday by the following verses, which, though quoted more than once in other quarters, will not be out of place here:—

"Resigned to live, prepared to die,
With not one sin but poetry,
This day Tom's fair account has run
(Without a blot) to eighty-one!
Kind Boyle before his poet lays
A table, and a cloth of bays;
And Ireland, mother of sweet singers,
Presents her harp, still to his fingers.
The feasts his towering genius marks
In yonder wild goose and the larks.
The mushrooms show his wit was sudden,
And, for his judgment, lo! a pudden.
Roast beef, though old, proclaims him stout;
And grace, although a bard, devout.
May Tom, whom Heaven sent down to raise
The price of prologues and of plays,
Be every birthday more a winner,
Digest his thirty thousandth dinner,
Walk to his grave without reproach,
And scorn a rascal and a coach."

The allusion to the harp in the above lines occurs through the fact that in the fashionable table-cloths of the day of Irish linen the national emblem was woven. All through the eighteenth century several of Southern's plays held possession of the stage. The most popular and lasting of them were "The Fatal Marriage" and "Oroinoka," and these were constantly acted on the boards of the Dublin theatres, not only down to the close of the last century, but for some years into the present. Southern has been blamed for introducing comic scenes into his tragedies, but he sins in good company, for Shakespeare and Calderon have done the same. The following plays were also written by him—"Sir Anthony Love," 1691; "The Wives' Excuse," 1692; "The Maid's Last Prayer," 1693; "The Fate of Capua," 1700; "The Spartan Dame," 1719; "Money the Mistress," 1726. Southern, unlike many other dramatic authors, was enabled to spend his latter years in ease and comfort, his productions having brought him a competence.

We quote the following illustration of the philosophy of Southern when unsuccessful, from Dr. Doran's "Their Majesties Servants"—"More touching than this was the way in which the aged Southern, in 1726, took the condemnation of his 'Money the Mistress,' at Lincoln's Inn-fields. The audience refused the request made in the prologue to protect the man who had filled their mothers' eyes with tears. They had no particular reverence for 'the last of Charles's bards,' nor especial regard for 'great Otway's peer and greater Dryden's friend.' The audience hissed mercilessly. The old man was standing at a wing with Rich, who asked him if 'he heard what they were doing.' 'No, sir,' said Southern calmly,

'I am very deaf.' So, quietly did he see fall from his grey head the wreath 'for half a century with honour worn.'"

As a dramatic author of the seventeenth century, the name of Sir John Denham ought not to be passed over, although as a poet, and the companion of kings, statesmen, and poets, he is better known. He was a native of Dublin, where he was born in 1615. In the year of the great Irish Rebellion of 1641 he published a tragedy entitled "The Sophy," which, it is said, was very successful. Denham was faithful to the fortunes of Charles I., and conducted some of the king's correspondence. While at the court of Charles at Oxford, in 1643, Denham's celebrated poem, "Cooper's Hill," was published, which has remained popular ever since. In the above poem, in comparing his own poetry to the Thames, Denham exclaims:—

"O, could I flow like thee, and make thy stream
My great example, as it is my theme.
Though deep, yet clear; though gentle, yet not dull;
Strong without rage; without overflowing, full."

The whole description of the Thames from Cooper's Hill has been often used as an elegant extract, and the four lines we quoted frequently used in simile. Denham died in 1668. He was the son of Sir John Denham, Chief Baron of the Exchequer in this country, and one of the Lord Justices. His mother was a native, being a daughter of Sir Garret Moore, sometime Baron of Mellifont.

In Ware's "Writers" we have a few brief particulars of a Richard Head, the son of a clergyman who lost his life in the Rebellion of 1641. According to Harris's edition, Head was educated a short time in the University of Oxford, but for want of support could not pursue his studies. He was afterwards bound apprentice to a London bookseller. He seems to have had a rambling disposition, and to have neglected his trade. He returned to this country at one time and stayed for some time in Dublin. On this occasion he appears to have written his play, "Hic et Ubique; or the Humours of Dublin," a comedy which, we are told, was acted privately with applause. There is an edition of this play bearing the imprint of London, 1663. After leaving Dublin, Head took up his bookselling trade again, and wrote several trifles for a livelihood. "At length," says the record to which we are indebted, "having passed through many wants and afflictions he was cast away at sea on his passage to the Isle of Wight." The dates of his birth and death are at present unknown.

None of the above dramatic authors, as far as we are aware, acted on the Irish or English Stage, although some of their works are indissolubly connected with them. We retraced our steps to take notice of them, and will possibly take notice of a few more native dramatic authors before resuming our notices of actors and actresses connected with the history of the Irish Stage proper.

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

OUR great countryman, philosopher, and churchman, George Berkeley, Bishop of Cloyne, was a man of great faith as well as scientific attainments. His essays of various kinds are full of profound thought. His "Maxims Concerning Patriotism," first published in 1750, and his "Querist," first printed in 1735, are as applicable to-day as they were a century and a-half since. Berkeley, to be sure, like many great men, had a hobby. In 1744 his work on the virtues of "Tar Water" caused a good deal of wonderment, followed by "Farther Thoughts on Tar Water," in which he cites numerous instances from his own knowledge of remarkable cures being effected by its use. We have no reason for doubting that a great number of these cures took place, but whether exclusively owing to the medicinal effects of tar water taken constantly in copious draughts, we cannot say. Berkeley recommended it in a variety of cases—ague, small-

pox, measles, fevers, colics, disorders of the bowels, gout, rheumatism, &c., and cited instances of its curative effects when given to animals. He says:—"Nor is it only useful to the bodies of infants, it hath also a good effect on their minds, as those who drink it are observed to be remarkably forward and sprightly. Even the most heavy and lumpish and unpromising infants appear to be much improved by it. A child there is in my neighbourhood, of fine parts, who at first seemed stupid and an idiot, but by constant use of tar water grew lively and observing, and is now noted for understanding beyond others of the same age."

Even at this date it is interesting and instructive to go over Berkeley's work and list of attested cures. His enthusiasm was great, his reasoning shrewd, and his examples plainly stated. In Berkeley's day it must have been a wonderful healing time, for we have not only cancers but broken limbs set and cured with rapidity with the aid of tar water. Here is a surgical case:—"A poor boy in Cloyne having fallen from a tree and broken both arm and waist. This accident was concealed or neglected for two or three weeks; he was then put under the care of a skilful bone-setter, who finding the bones knit and grown crooked, and that it would be necessary to break them again, in order to set them right, and withal considering the hot season of the year (July), he apprehended his patient being thrown into a fever that might prove fatal. But the boy being made to drink copiously of tar water, this prevented or lessened the fever in such sort that the bones were broken again, and the cure proceeded as easily and speedily as could be wished." We see from the cited number of cases given by Berkeley that old age, as well as youth, was amenable to treatment by the use of tar water. We have the case of a woman in her sixty-eighth year, seized at once with ague, colic, and jaundice, of all which maladies she was said to have been cured in a fortnight by drinking three pints of warm tar water every day. As failures resulted from the improper preparation of tar water, Berkeley is particular in giving directions. We quote his opinion as to the way it should be prepared:—"Tar water being made in an earthen vessel unglazed or that hath lost part of its glazing may extract (as it is a strong menstruum) from the clay a fade sweetishness, offensive to the palate. It should seem, therefore, that the best way of making tar water is in a stone jug or earthen vessel throughout well glazed, and as it will not extract a tincture from any metallic vessel, it should be warmed in a well-glazed pipkin rather than a saucepan. By increasing the proportion of tar to the water, and by stirring it longer, tar water may be made strong enough for a spoonful to impregnate a large glass, a thing very useful on the road."

Berkeley advocated the use of tar water everywhere, and almost for every ill. It could reduce wens, polypuses, swollen abdomens, and other latent and external complaints. A tub of tar water was recommended as a kind of provisional hospital in market towns, being a safe and cheap remedy for those who could not afford to be sick or to make use of costly medicines. Berkeley concludes his "Further Thoughts on Tar Water" with these words:—"That extraordinary virtues should be contained in tar water, will not seem strange if we consider that pitch is nothing but hardened tar, or tar drained of its moisture, and that an extraordinary quantity of light is retained in the substance of pitch, as appears from certain electrical experiments which, having been made since, seem not a little to confirm what had before been suggested in *Sires*."

It may not be amiss here to quote what the chemist Linden wrote in the last century in his "Treatise on Soltzer Water":—"At last the long-delayed wishes of the faculty are fulfilled in the Bishop of Cloyne's discovery. . . . There has always prevailed a notion among the chymists, and particularly with Paracelsus and his fol-

lowers, that in those oils [the empyreumatic oils of plants] there lay a great secret undiscovered. This notion was occasioned by the strange effects which a small quantity thereof had upon the human machine. Several have been diligent to discover this secret, and find out a method to administer these oils with safety, yet nothing was performed salutary until the B. of C. discovered to us the use of tar water; to him alone we are indebted for rendering the empyreumatic oils a safe medicine in every respect."

It is possible that the drinking of tar water may come into use again, but whether it does or not we hope that the drinking of pure cold water will and in greater quantities, as also the general use of the bath. Berkeley's writings on several subjects show him to have been a pioneer sanitarian and social reformer.

Engravings and pictures in the last century were made to do double service in book-making, as well as at the present day; but there were often good reasons for the expedient at a period when the cost of copper-plates very much increased the cost of books to authors and their publishers. In Pool and Cash's "Views of the Most Remarkable Public Buildings, Monuments, and other Edifices in the City of Dublin" (Dublin: Printed for J. Williams, 21 Skinner's-row, 1780), we have a plate on the title-page representing the statue of King William III. in College-green, with the gabled houses of that period on the south side of the green, the sedan chairmen, and a collegian, some ladies in the fashion of the day, and other figures. This on the right bears the name *Pool et Cash*, delin^t., and on the left-hand corner Jⁿs. Lodge, sculp^t. If we remember aright—and we speak open to correction—this plate was utilised some years later in Baker's history or compilation relating to Ireland. Several of the plates of old abbeys, &c., in the *Anthologia Hibernica*, 1793-4, were afterwards utilised by one of the subscribers to those volumes, Wenwan Seward, in whose name the *Topographia Hibernica* was published some years afterwards. The pictures in Wright's "Dublin, 1821," drawn by George Petrie, were, we believe, again used in a similar volume brought out several years subsequently by the publishing house of Curry and Co., Sackville-street, who acquired the copyright of the former work with others. Malton's "Views of Dublin," 1793-7, have been occasionally re-sketches in part, and also the Views of Pool and Cash. A number of the woodcuts of the *Dublin Penny Journal* (1832-6), published by John Folds, and afterwards by Dixon Hardy, have been used over and over again in magazines and almanacs. The *Dublin Penny Magazine* of 1833, republished by Coldwell, of Capel-street, was again re-published in 1841, simultaneously with the issue of the *Irish Penny Journal* of Gunn and Cameron. Several of Lover's etchings to his stories in the magazine were again used in a small volume of stories of the Irish peasantry. Several of the woodcuts of the *Irish Penny Magazine* have also been reproduced in a similar way to those in the *Dublin Penny Journal*. Some of the best of the illustrations in the volumes of the *Anthologia Hibernica* were executed by Benjamin Clayton, and at a time when he was only in his sixteenth or seventeenth year. His son Benjamin Clayton did many of the early woodcuts in the first volume of the *Dublin Penny Journal*, and his daughter Caroline Clayton (afterwards Mrs. Millard), the wife of a respectable builder of long standing in this city, exhibited the genius and talent of her grandfather and father in clever engraving.

We often thought that notices of the members of the Clayton family were called for in connection with the rise and history of wood engraving in this country. This city produced several clever engravers upon copper and other materials during the eighteenth century, but the most of these craftsmen betook themselves to London. John Brookes, of Cork-hill, though not an engraver of great

note, yet to his instruction we are indebted for two famous mezzotint engravers in the last century—M^r Ardel and Richard Houston. Brookes is believed to be the first to produce a specimen of an art that afterwards became extensive—the printing in enamel colours to burn on china. He was employed by Sir Theodore Jansen, at that time Lord Mayor of London, at his manufactory at Battersea. It is said that by the neglect and bad management of Brookes, Sir Theodore Jansen's works came to grief. Brookes designed and engraved much for the London booksellers, and prostituted his talents in the production of disreputable works. There is good reason for believing that Brookes was acquainted with the art of lithography long before it was publicly known, and utilised it in the production of some of his engravings. Glyn, a native of this country, was another ingenious designer and engraver in the last century. Before the publication of Poole and Cash's Views of Dublin there was no similar work published in this city, so far as we are aware of. Rowland Omer, whose name appears among the list of competing architects for the Royal Exchange, Dublin, in 1769, exhibited some views of the Irish Parliament House, which were engraved by Messrs. Mazell and Halpin; and Thomas Ivory, the architect of the Bluecoat Hospital and other buildings in this city, executed a drawing of Lord Charlemont's Casino at Marino, which was engraved by Rooker. The design of the Casino itself was the work of Sir William Chambers. A large number of copper-plates are given in illustration of "Building in Water" (1776), by George Semple, the architect of old Essex Bridge, but we do not know whether they were executed here or in London. A "Treatise on Architecture," by J. Aheron, printed on Cork-hill for the author several years earlier in the last century, is copiously illustrated with plates, but we forget whether they bear any name. The MS. of this volume is in the British Museum, and it was supposed for long years, until recently, that the work existed only in MS. We could say much about engravers and engravings used and abused, but for the present we must end our notice at this point.

The first volume of a work has recently been published by Lord Edmund Fitzmaurice, giving the life and a history of the events with which his grandsire Lord Shelburne, one of the premiers of George III.'s reign, was connected. In a Dublin magazine towards the close of the last century, already quoted in these notes, there is a letter signed "H—y," possibly Francis Hardy, the biographer of Lord Charlemont. The writer H—y says there was at that time (1793) in the possession of the Hon. and Rev. Maurice Crosbie, Dean of Limerick, a MS. in small 4to, containing 221 pages, in two different handwritings—both indifferent, though very legible. The writer goes on to state that the work was by Bryan O'Connor Kerry, and that it was a diffuse, though very imperfect, Genealogical History of the House of Fitzmaurice E. of Kerry, Shelburne, &c., but principally of Raymond le Gros, the founder of the said families, &c. The MS. work is described as wanting six or eight pages (from 34 to 40), and that there are no dates of deaths, marriages, &c., to the last three or four lords. The following is the title page: "Genealogical and Historical Memoirs of Raymond le Gros and the illustrious Lords of Kerry, &c. Faithfully and impartially collected from the most approved English and Irish Genealogists, Antiquarians, Historians, &c. Most humbly inscribed to the Right Honourable William Earl of Shelburne, Viscount Fitzmaurice, and Baron of Dunkerron, in the Kingdom of Ireland, and Baron of Chipping Wycomb, in Great Britain, by his Lordship's most devoted and most obedient humble servant, Bryan O'Connor Kerry. *Vincit amor Patria*." Has the present Lord Edmund Fitzmaurice a copy of this work? It might be useful to him in dealing with the history of his house. The work in MS. is further described by H—y as

sprinkled here and there with *heroics*, and in a "Poetical Description of Kerry," alluded to by Bryan O'Connor Kerry, it is mentioned that Thomas first Earl of Kerry had a passion for wearing Kerry stone buttons, of which he had several suits, set in the brilliant way. Here is a specimen of the poetry—

"Here gems unwrought send forth such lively rays,
That paler stars confess a feebler blaze;
The brilliant mass on noble lord admired,
The gem he polished on new charms inspired;
And foreign Courts, tho' envious, forced to own
He wanted of a monarch but the Crown."

The above MS. appears to have been an imperfect copy of the original, for a portion of it is not in the same handwriting. It ends at page 221 with an account of the Hon. Captain James Fitzmaurice, of Kilmihill. There is a dedication of two pages to William Earl of Shelburne, but no date; and this sentence concludes the unfinished work:—"To be concluded in a couple of days. N. B." Who was N. B., or did the initials of a postscript shift their place according to the laws of gravitation or design?

THE GLASGOW INSTITUTE OF ARCHITECTS.

At a general meeting of this body, held last month, Mr. John Baird, I.A., in the chair, the president, before distributing the prizes, reminded the institute that two years ago Mr. John J. Stevenson, architect, of Westminster, one of the original members of the institute, presented a sum of money to be offered in prizes for competition amongst the young men employed in the offices of members in town. Accordingly, prizes were offered last year, and a very excellent competition was the result. Indeed, the drawings sent in were all of such superior merit that the only regret the council felt was that they had not a greater number of prizes to offer. Encouraged by the success of that competition, the council resolved this year to offer a gold medal for the best series of measured drawings and illustrative sketches from any municipal or domestic building in Scotland erected prior to the eighteenth century, to be competed for by draughtsmen and pupils in the offices of members of the institute. For himself, he was anxious that apprentices should not be overlooked, and he offered a silver medal for the best series of drawings illustrating the south porch of the Crypt of St. Mungo's Cathedral, Glasgow, to be competed for only by pupils who, previous to May 1 last, had not been longer than five years in any architect's office. The competition for the Apprentices' Medal, he was glad to say, was very keen. No fewer than nine competitors entered, and all their drawings were exceedingly meritorious. But he was sorry to say that the competition for the Council Medal was not satisfactory, only a few of the young men coming forward. It was intended to be worthy of the widest competition, and as it would have conferred upon the holder of it the imprimatur of the Institute, the council felt that it could only be bestowed for distinct excellence in drawing. As he had said, the number of competitors was small, and it was perhaps the misfortune of those who did come forward that they were unable to go far afield in the selection of subjects. At all events, the council felt that in the circumstances they could not give a gold medal, and so they resolved to expend the money which they had set aside in purchasing valuable book prizes on art subjects for distribution, and these he had now the pleasure of awarding.

Mr. Baird then presented the book prizes, the recipients being Mr. John Cumming, in the office of Mr. John Honeyman; Mr. Wm. Millar, in the office of Messrs. Campbell, Douglas, and Sellar; and Mr. James Smith, in the office of Mr. John Gordon. The President's Prize was awarded to Mr. William Preston, and bore the following inscription:—"Glasgow Institute of Architects. Incorporated 1868. President's Prize, 1876, for Apprentices. Gained by William Preston. John Baird, president."

EMPLOYERS AND WORKMEN—
ENGLAND AND SCOTLAND.

SINCE our last issue several partial strikes have taken place in the sister kingdoms, and some more have terminated. The iron and coal trades appear to be much disturbed.

At Liverpool the following resolution was passed at an important meeting of the coal masters of South Lancashire:—"That, in consequence of the great reductions in the price of coal, and the very depressed state of the markets, all wages of the colliers in the south-west Lancashire district be reduced 15 per cent." We also read that after a conference between the Durham coalowners and representatives of the Miners' Association at Newcastle, the former body passed a resolution that the only mode of averting the disastrous effect of a suspension of work is to offer to submit to open arbitration their claim for a reduction of present wages of 15 per cent. on under-ground labour, and 10 per cent. on above-ground labour, to take effect from July 1st. At the request of the representatives of the Miners' Association, it was resolved to withhold the serving of the notices for a few days.

The annual report of the Amalgamated Society of Engineers shows that the members now number upwards of 44,000, and the income has risen from £118,556 in 1874, to £120,024 in 1875. Owing to the Erith strike there was a considerable increase in the expenditure last year, the total amounting to £94,871. Of this sum not less than £28,500 was paid as out-of-work benefit. At the close of 1875 the balance in favour of the society stood at the figure of £264,641.

At Edinburgh, since our last issue, the operative slaters struck work in consequence of the masters' refusal to concede an advance of 3d. per hour. The employers are unanimously in favour of adhering to the agreement stipulating for three months' notice.

At Glasgow, at a meeting of the joiners, it was stated that 540 men left the city for work at other places. From the commencement of the strike up to a week or so ago, the roll had been reduced to 150. A motion to the effect that the society and non-society men adhere to their original demand was then passed.

At Lydney, Forest of Dean, work has been resumed by the tinplate workers, and a notice of a reduction of 5 per cent. has been given to the colliers employed by the Messrs. Luckes, Forest of Dean.

Notices have been served upon the ironworkers and furnacemen in the employ of Messrs. Crawshaw, Forest of Dean, reducing their wages a further 5 per cent., making the standard 10 per cent. lower than it was 25 years ago.

Of the bricklayers of Glasgow who have been on strike since the 1st of June, the *Glasgow Citizen* supplies the following particulars:—"On the 27th February last they sent in a demand in terms of the annual agreement with the employers that at the expiry of three months from that date they should require to be paid 2d. of an advance per day on the present extra rate (4d.) for building stalks, sewers, culverts, &c., and 3d. per hour of advance (9d. instead of 8d.). The employers agreed to concede the 2d. for the special kinds of work mentioned; but stated to a deputation who waited upon them that they would not grant the 3d. per hour at the present time, as the state of trade did not in their opinion warrant the advance. The men accordingly struck work on the following day (1st June). There are reasons to fear that in the course of next month we shall also have a strike of the masons employed in the city. Their present nominal standard wage is 8d. per hour; but during the past twelve months they have been receiving much more, the rate at some jobs running up as far as 11d. per hour. The average of the extra pay they have thus been receiving would, it is calculated, come to 9d. per hour; and a short time ago they gave notice to the employers that they desired the increase of 3d. to be made. That notice, it

is said, expires somewhere about the 17th July. In the meantime the master masons have advised the men that while they are quite willing to continue to pay the wages warranted by the state of the trade, they are not prepared to agree to a minimum rate of 9d., or indeed to agree to any fixed rate.

At Barnsley and in the Staffordshire collieries, some thousands of men and boys have resumed work.

There is a great dullness in most branches of the linen trade in the north of Scotland.

At Richmond, in Yorkshire, since our last issue, a number of masons employed in the erection of a new barracks turned out for an advance of 3d. per hour, their previous wages being 8d. per hour.

At Bath an award has been made effecting a settlement of the dispute between the master builders and their employees. The men get an advance of 3d. per hour, their wages being now 6d., but no change takes place in the hours of work.

At Rugby it was resolved, at a large representative meeting of the carpenters and joiners of North Warwickshire, held on last Saturday, to strike on the following Monday for an advance from 7d. to 8d. per hour. The masters refuse to give the advance.

At Bristol the strike of the master painters has been brought to an end, the master builders agreeing to give a general advance of 3d. per hour. The builders' labourers held a delegate meeting on Saturday, and after considerable discussion decided to cease work unless the masters will concede the advance of 3d. per hour as demanded.

DANGEROUS STRUCTURES.

THIS subject is one of great importance to the well-being of the citizens of Dublin. In view of better provision being made for coping with the growing evil in this city we annex the report of the Streets Committee of the Commissioners of Sewers, London:—

We, to whom at the last Court it was referred "To examine and report generally as to the mode of proceeding in regard to dangerous structures," do certify that by part 2 of the Metropolitan Building Act, 1863, clause 19, it is enacted, "That whenever it is made known to the commissioners that any structure is in a dangerous state, the commissioners shall require a survey to be made by the district surveyor, or by some other competent surveyor; and it shall also be the duty of the district surveyor to make known to the commissioners any information he may receive with respect to any structure being in such state." It appears from a statement submitted to us by the clerk that in general the notice of a structure being dangerous comes from the district surveyor, on a form supplied to him from this office. The commissioners thereupon require him to make survey of such structure in accordance with the act. Clause 71 of the said act provides that, upon the completion of his survey, the surveyor employed shall certify to the commissioners his opinion as to the state of any such structure. And clause 72 provides that if such certificate is to the effect that such structure is not in a dangerous state no further proceedings shall be had in respect thereof. But if it is to the effect that the same is in a dangerous state, the commissioners shall cause the same to be shored up or otherwise secured, and a proper board or fence to be put up for the protection of passengers, and shall cause notice in writing to be given to the owner or occupier of such structure, requiring him forthwith to take down, secure, or repair the same as the case requires. It appears that upon the certificate of the surveyor as last mentioned being laid before the court, orders are given for the district surveyor to cause the premises to be shored up or otherwise secured as he may deem necessary. And orders are given and notices served upon the owners and occupiers to effect the works required. Clause 73 of the said act provides that if the owner or occupier to whom notice is given fails to comply as speedily as the nature of the case permits with the requisition of such notice, the commissioners may make complaint thereof before a justice of the peace, and it shall be lawful for such justice to order the owner, or, on his default, the occupier of any such structure, to take down, repair, or otherwise secure to the satisfaction of the surveyor who made such survey, or of such other surveyor as the commissioners may appoint, such structure or such part thereof as appears to him to be in a dangerous state

within a time to be fixed by such justice. The district surveyors are supplied with forms on which to report when steps have not been taken to carry into effect the requisition of the notices of the commissioners in regard to dangerous structures. And upon receipt of such notification from the district surveyor, an order is made by the commissioners for the parties to be summoned by the solicitor before a magistrate. Clause 73 of the said act goes on to provide, That in case the structure is not taken down, repaired, or otherwise secured within the time so limited, the commissioners may, with all convenient speed, cause all or so much of such structure as is in a dangerous condition to be taken down, repaired, or otherwise secured in such manner as may be requisite. Upon the district surveyor notifying to the commissioners that the order of the justice has not been complied with, the practice is to authorise and empower the district surveyor to effect the works required, and proceedings are afterwards taken under the act of Parliament to recover the costs incurred from the owners or occupiers. The district surveyors are also supplied with forms on which to report to the commissioners when the works have been done to their satisfaction. We have also consulted with your solicitor upon the subject, and gather from him that this mode of proceeding, which has been in use for the last twenty years, has, on the whole, worked satisfactorily.

Not only in relation to dangerous structures or tumble-down buildings is Dublin badly cared for, but also in relation to the erection of new buildings. We have been crying out for long years for a Building Act for Dublin.

THE ROYAL IRISH ACADEMY.

THE members of the Academy met on Monday evening, 12th ult.
SAMUEL FERGUSON, Esq., LL.D., Vice-Pres., in the chair.

The following letter was read by the secretary:—

Science and Art Department,
South Kensington (S.W.),
8th June, 1876.

SIR,—I am directed by the Lords of the Committee of Council on Education to state, for the information of the Council of the Royal Irish Academy, that they have received a communication from the Irish Government respecting the transfer of the charge of the vote for the Royal Irish Academy from the Chief Secretary for Ireland to this Department; and I am to request that, in accordance with the instructions given by the Lords Commissioners of the Treasury, the accounts of the Royal Irish Academy from the 1st of April last may be transmitted to this Department, in the same manner as has heretofore been done to the Irish Government. NORMAN MACLEOD.

The letter was marked "read."

Amongst the presentations to the Academy acknowledged by the treasurer was one from W. J. Fitzpatrick, Esq., viz., the original fee-book of John Philpot Curran, from his call to the bar, 27th of November, 1775, to 1781. The entries record the name and nature of each case, the court before which it was heard, the name of the attorney, and the amount of the fee. The latter ranged from the usual guinea (£1 2s. 9d.) to £100 in the Sligo election for Mr. Wynne. There are also some personal entries, such as "detained by a black eye."

The following papers were read, and referred to Council for publication:—"Report on the Allotroism of Silenium, and of the Influence of Light on the Electrical Conductivity of this Element," by Henry G. Draper, F.C.S., and Richard J. Moss, F.C.S. "On some Peculiarities in the Conditions under which the Remains of *Cervus Megaceros* were lately found at Ballybetagh," by George Porte, Esq. "On the Ceremonial Turn called Desiul," by Samuel Ferguson, LL.D.

The final meeting of the session took place on the 26th ult., when several papers were read and referred to council for publication. The reading of the Report of Council on the question of amalgamation, led to a lively discussion as to the wisdom of retaining one of the clauses in a petition proposed to be forwarded to Parliament. The clause was retained.

SKETCH OF THE INSTITUTE OF BRITISH ARCHITECTS.*

In attempting to give a sketch of the history of this Institute, whose members and friends are assembled in so large a proportion to-night, and with which I have had the honour of being officially connected for the last ten years, I must preface my remarks by reminding you that it is *but* a sketch, and that to record with anything like fidelity the career of a society which has existed for nearly half a century, would be to fill not a single number, but a volume of our Transactions with details which, however interesting to you individually, would be tedious if presented as a whole. I shall, therefore, content myself with a rapid survey of the rise and progress of the Institute, describing as briefly as I can the original objects of its foundation and the extent of their development, the schemes which it has entertained for protecting and promoting the interests of our profession, and the work which it has accomplished in that direction. I shall endeavour to point out the causes which have been conducive to its prosperity, and the difficulties with which it has had to contend. Finally, I hope to explain the mode and manner of its administration as at present organised; and if in conveying this information I haply succeed in enlightening some of our professional brethren who are present to-night as visitors, and who have a somewhat vague idea of what the Institute is, as compared with a still more indefinite idea of what it ought to be, my paper will have served its modest purpose.

The earliest corporate association formed by the followers of our art it would be difficult to name. It probably existed in common with other ancient guilds during that golden age described by a certain quarterly Reviewer when the "master workman" flourished in all his glorious independence. But, coming down to more modern times, perhaps the first institution formed by professional men with aims and objects similar to our own was that of the *London Architectural Society*, established in 1806. This society had a president, four vice-presidents, a treasurer and secretary. It included in its ranks ordinary and honorary members. The former were required by its rules "to produce annually, according to rotation and time agreed on, an architectural design never before in any way made public, and accompanied by observations, critical and explanatory, under forfeiture of two guineas; also an essay, under forfeiture of half-a-guinea."

The object of the society's meetings, held once a fortnight, was to discuss the designs, observations, and essay above mentioned, and every member absenting himself for two successive nights incurred a fine of five shillings, unless prevented by illness or a distance of 10 miles (an excellent rule, which I venture parenthetically to recommend to the notice of our finance committee as a legitimate and, perhaps, fertile source of income). The designs and essays remained the property of the society, who published such as they thought worthy of that honour, kindly presenting the author with two copies for himself.

The proposal of new members by nomination paper and the subsequent election by ballot, resembled the forms still adopted by this Institute. The *raison d'être* of this society is given in a preface to their first volume of Transactions, where it is stated that

"Among the institutions so liberally established in this city, there is not one calculated for the encouragement of architecture. The feeble protection afforded by the Royal Academy can hardly be deemed an exception. The lectures have long ceased and medals privately distributed, and the use of the library for a few hours one day in the week, at a time when it is hardly possible for a student of architecture to attend, cannot be deemed of much value."

Thus we see that even in the early days of

the present century architects conceived that they were neglected by the R. A. The list of members included many names which are well known at the present day in connection with our profession, such as Ashpitel, Beazly, Billing, Elmes (who wrote the "Life of Wren" and other works), Peacock, Savage, Taylor, and Joseph Woods, the well-known author, and editor of the fourth volume of Stuart's "Athens."

How long this association existed I have been unable to ascertain, but it probably became extinct some time before the formation of the *Architectural Society*, which was instituted in 1831. The primary objects of this society were stated to be "the advancement and diffusion of architectural knowledge, by promoting the intercourse of those engaged in its study, the ultimate desire being to form a British school of architecture, with the advantages of a library, museum, professorships, and periodical exhibitions." For this society all persons who had studied the profession of architecture in the office of an architect for five years were eligible as candidates. The rules provided for the admission of honorary (foreign) members, amateurs, and students under 21 years of age. The council consisted of eight members, besides a president, two vice-presidents, a treasurer and secretary—to be chosen annually—Mr. Thos. H. Wyatt being among the first of the vice-presidents. The general meetings were to be held on every alternate Tuesday, beginning in November and ending in June. A curator was appointed to take charge of the library and museum, and, judging from the fact that he was to be elected every three months, we may assume that the office was honorary.

The president (Mr. W. Barnard Clarke) and many other members, presented casts and books, to which, under certain restrictions, the students had access at the society's rooms in Lincoln's-Inn-Fields.

In January, 1834, we find that a meeting of architects and surveyors was held at the Freemasons' Tavern for the purpose of forming another society "for the study of architecture and architectural topography." Some difference of opinion seems to have been expressed at this meeting as to the objects of the proposed institution, and the condition of its membership. The consequence was a secession, and certain of the gentlemen present agreed to hold another meeting at the Craven Hotel. This resulted in the appointment of a committee, consisting of Messrs. P. F. Robinson, Kendall, Goldicutt, Fowler, Donaldson, Donthorn, Noble, and others, who were requested to draw up a scheme for the formation of an institution calculated to uphold the character and improve the attainments of the architect. At a subsequent meeting Messrs. Barry, Basevi, Burton, Cresy, J. Gwilt, Hardwick, Kay, Lee, Sir J. Rennie, Papworth, Robinson, Seward, and G. Taylor were elected as original members.

Here, then, we have the nucleus of that society which was afterwards known as the Institute, and, subsequently, as the Royal Institute of British Architects. Of its later coalition with the Architectural Society, or, rather, with certain members of it, I shall speak hereafter; but to the various arguments for and against that coalition—the pardonable rivalry which seems to have existed between the two institutions, and the expressions of personal feeling which it elicited, I shall not refer. Such details would have but little interest for the present generation, and had best be buried in oblivion. It will be well, however, to remind you that in, and at the outset of, their endeavours to establish the Institute, its founders had to encounter numerous difficulties; that they met with frequent and long-sustained opposition from more than one quarter; that many members of the profession held aloof—as some will at the present day—from various motives, and had to be won over by arguments and persuasive proselytism which must have taxed the ingenuity and tired the patience of those who undertook the task.

But they went on bravely—this little band of architects, and by degrees their labours were rewarded. Recruits came in from here and there, and their numbers increased with cumulative power. Petty jealousies died out in time; trivial objections were answered or explained away; personal considerations disappeared before the more important object of professional integrity, and the Institute became a fact.

As we glance down the list of its original members, and recollect that two and forty years have passed away since they first incorporated themselves for the purpose of accomplishing their laudable object, we shall not expect to find many who have lived to see the present development and extension of their scheme. The elder Kendall, Papworth, Robinson, Goldicutt, and others, to whose individual exertions the Institute is indebted for its earliest organisation, are gone, but among the veteran survivors who were elected in 1834 we may still note the names of Thomas Bellamy,* Decimus Burton, and Professor Donaldson. It was the object of these gentlemen and of others with whom they were associated, to secure for the earliest members of their society architects of prominent position and unimpeachable character, educated for and following their profession as an art, and free from those conflicting relations with trade which in the early part of this century certainly did exist in some instances, and prevented that implicit confidence on the part of the public which should enable a client to regard his architect not only as his agent but as his friend and adviser. The rules for professional practice then drawn up, and which formed the basis of those still in existence, secured this fundamental object, as far as it is possible to secure it by such means.

With regard to other qualifications for membership, the hard and fast line which it was at first found necessary to draw has been modified of late years. But it must be remembered that in the early days of this society that honourable and eminently useful calling, which has since attained the dignity of a profession, was in its infancy, and its true position had not been realised. Few who remember the class to which the "builder's measurer" then belonged would have recognised in it a prototype of the modern "quantity surveyor." I should not have alluded to this subject but for the fact that it occupied considerable attention at the very birth, so to speak, of the Institute, and that the question whether or not surveyors should be admitted as members formed a point of contention between the Society of British Architects and the Society of Architects and Surveyors, with whom an alliance was sought. Except on this point, the reports of the two committees appointed to confer with each other nearly corresponded. After several meetings, much discussion, and more correspondence, a certain number of the original, though junior society, were elected members of the Institute. Sir John Soane contributed the sum of £750 towards its funds; and the medal, which still bears his name, was founded in acknowledgment of his liberality.

Earl de Grey, an amateur of considerable cultivation and artistic taste, was chosen as president, and Messrs. Donaldson and Goldicutt were appointed the first honorary secretaries. Rooms were engaged at 43 King-street, Covent Garden, better known as Evans's Hotel, a building said to have been designed by Inigo Jones, and celebrated in later, though still classic days, for songs and suppers, which have been immortalized by Thackeray in his description of "The Cave of Harmony."

There the first general meeting of members was held on the 15th of June, 1835, though, strictly speaking, the Institute was founded in the previous year. In his opening speech, Lord de Grey pointed out the objects with which the society had been established, and described the advantages

* By Mr. C. L. Eastlake, Secretary. Read at recent Conference.

* Immediately after the reading of this paper the sad news of Mr. Bellamy's death was communicated to the meeting.

which architecture, as a national art, would derive from its foundation. His remarks were followed by an able address from the senior secretary, who was enabled to state that nearly eighty members had already been enrolled, that through the courtesy of the Foreign Office communication had been opened with several of the continental academies, and that the nucleus of an excellent library had already been formed. Mr. Donaldson expressed his hope—a hope which he has lived to see realized—that in due time prizes would be offered to young architects for original designs and measured drawings of ancient buildings. He referred to the opportunities which would arise for discussing at the periodical meetings of the Institute questions of scientific and antiquarian interest, and he adverted to the possibility of establishing a fund which would aid the student in foreign travel. In short, Mr. Donaldson foreshadowed most of the projects which the Institute has since been enabled to carry out, and it is a tribute to his sagacity to observe that these early records, which I have perused with deep interest, include no visionary schemes which have since been abandoned, or ambitious prophecies which remain unfulfilled. Since those days the Institute has indeed extended the sphere of its work, and largely added to its aims; but in the path which its founders opened there has been at least, so far as I can trace, no retrogression. No castles in the air have vanished, because none were ever designed.

In regard to the subdivision of members the general conditions of membership, the formalities of election, the regulations respecting ordinary general meetings, and many other matters, the bye-laws drawn up in 1835 are almost identical with those of 1876. Even the amount of subscriptions, except in one particular, remains the same. The council has indeed doubled its number of ordinary members, but its constitution in other respects is unaltered. The earliest programme of our sessional papers on record includes the same variety of subjects which we are accustomed to hear discussed at the present day. The recent discovery of the Crypt at York Minster, an essay on Building Stones, a List of Queries for Architectural Investigation, a Biographical Memoir, the Description of a Tunnel Sewer, a Paper on "Ventilation and the Construction of Flues," another on "Suspension Bridges," and a "Review of Professional Practice," such were the themes which interested the last generation of architects, such are the themes which attract—or, shall I say, ought to attract us?—in our day.

At the first inaugural meeting, a medal was offered for an essay "On the Nature and Properties of Concrete." This was gained by Mr. George Godwin, who dealt with the subject in a very able and exhaustive treatise. The Institute soon after published a useful little pamphlet entitled "How to Observe," containing a series of suggestions for the purpose of aiding antiquaries and amateurs of architecture in their communications to this society.

(To be continued).

ON GENERAL BUILDING REGULATIONS FOR THE UNITED KINGDOM.*

THE subject of building regulations is one of great importance to every architect, and when one thinks of the number of acts in force, we are surprised how many of our brethren—whose practice extends over a large area, in which there are many acts and bye-laws in force—get on under them, for you cannot remember the conditions imposed by all.

At present the following general acts are in force:—Town Improvement Clauses Act, 1847; Public Health Act, 1848; Local Government Act, 1858; Sanitary Act, 1846; ditto Amendment Act, 1864; another Amendment, 1874; Public Health Act, 1875; Chimney

Sweeps Act, 1875. And all the large towns (except Manchester) have special acts. Many of the bye-laws are different from one another. How few there are who know the sanitary acts!

What I think would remedy these evils to a great extent is as follows: say, take the present Metropolitan Building Act as a basis, expunge the clauses found not to work, insert clauses as to strength of timber, iron, concrete, &c., as needed, and incorporate all the miscellaneous acts connected with building in it; take evidence by a commission composed of Parliamentary and professional members as to what is wanted in the different places, and then frame an act on their report.

I would suggest that the present system of building surveyor and districts be adopted as in the metropolis, except that in, say, three situations in England and Wales, two in Scotland and two in Ireland, there be head surveyors or referees, to whom all disputes as to the meaning of the act and its carrying out should be referred, and who should see that it was properly carried out by the local surveyors; or another plan would be to divide the country into hundreds and appoint a referee to each. The referee should decide all cases of dispute between the surveyors and builders or proprietors; but should they not be satisfied with his decision, appeal might be made to the board in London (whom I shall presently bring before you) on payment of certain fees. The referees to be responsible to the board, and also to see that the act was carried out. The board in London to have the entire control; to be composed of professional members with a Parliamentary head; they to have the power to make regulations for new materials, or new ways of using old ones, and in special cases to modify existing laws and to be answerable to Parliament for their acts. The referees and board to be paid by the State.

I would have all the surveyors practising architects; firstly, because they would imbibe the new ideas as they came out and not be obstructives; secondly, because one architect who was not a building surveyor would look pretty sharp after his more fortunate brother, who was not as at present, when there is great neglect in looking after buildings. I came across a building a few months ago in which the beams were not according to the act, and there were wooden blocks in half-a-dozen flues, and several other like matters; and about a fortnight ago a sewer which had no junction with the main, but both ends were left open, so that the sewage might find its way into the building. One architect would inform another very often from friendship if he saw anything going wrong in his friend's district.

But some may say how would you do for surveyors in very countryfied places? Well; I think some architects from a neighbouring town would very gladly take the post, and, if they would not, the overseer or some one who has duties in the place would, for the sake of the fees. The kingdom would have an efficient staff of surveyors, who would show neither fear nor favour, for they would not know when the referees might pop on them. The present board surveyors do show favour and occasionally spite, for I could name houses that have not 50 superficial feet of yard space, much less the 150 ft. required to be left; also, where the bye-laws have not been enforced against members of the board and have upon others.

No doubt a great deal may be said as to local customs, but the main principles of construction are the same everywhere, for a granite wall is put near the same thickness as sandstone, and bricks are all about one size. The cottage, which is of the minimum strength in the Highlands, is not too strong for London, and a General Building Act would not necessitate that everybody should build of the least strength allowed. There are no Building Acts in force in many country places where they are very much wanted, and where the bye-laws under the Local Government Act are in force, they are to a great extent disregarded. If there were proper

inspectors to go round the districts this would not be so likely to occur. You are, no doubt, aware that under many of the bye-laws all deficiencies must be found within three days: this would certainly require altering. It is an easy thing in a Jerry builder's eyes to say the work has been done four or five days or more, when it has only been done perhaps one. Another great advantage of a general act would be that architects would know the regulations—not be in a fog, as you sometimes are, and the general act would carry more weight.

Let us take an instance of the difficulties experienced under the present system. A London architect receives a commission to design a building in Liverpool (he could not obtain a copy of the Building Act until last year because it was out of print); he makes his plans and perhaps finds great difficulty in getting at what the regulations are: say it is a shop, and he wishes some projection, and, looking over the act, comes across the clause which allows shop-fronts to project 12 in., and the cornice 18 in., and sends the drawings down to be passed, and has them rejected, he cannot understand why,—the explanation being that he has not complied with the Town Improvement Clauses Act. It is not an unusual thing for plans to be rejected when the authorities have no power to reject them. The best thing for an architect to do is to carefully read the whole of the acts, and then go on building, for no plans are required to be passed for any building but houses. Nearly all the present Building Acts in the country want revising; the present generation have improved on the preceding one, and the next will improve on the work of the present. In Liverpool the following local acts are in force:—Building Act (1842), Fire Prevention Acts (1843 and 1844), which apply to warehouses only; Sanitary Act (1846), ditto, Amendment (1864), and Bye-laws under Local Government Act (1858). If we had one act embracing the whole, and modernising them, it would be much better.

I will point out to you a few of the defects of the Building Act; but, first, we may say that the town council have ample power to appoint surveyors, but they do not exercise them sufficiently; there are two assistant building surveyors, and two sub-assistants (the borough engineer is the building surveyor). There are at present about 6,000 buildings and alterations in progress, and 3,000 cases of dangerous structures; the act provides that discrepancies must be noted within ten days. Too few surveyors to cope with so much work and find out the buildings being erected without notice, and to be called "assistants." They are paid out of the borough fund. There are no fees.

Some of the defects in the working of the act are as follow:—

There is no obligation to submit plans of buildings, and, as the Sanitary Act only deals with houses, this difficulty often arises. It allows no buildings to be erected except they are of stone or brick, hence the ordinary circus buildings, &c., are contrary to the act. Thickness of walls depend not on the length and height of the wall itself, but on the length and height of the front wall; so the staircase, or party wall of a house may be put one brick thick, and yet have no internal support for, say 60 ft., if the front wall does not exceed 36 ft. in height, or 39 ft. in front, and I have heard of a stable being put up with 9 in. walls because what was called the front did not exceed 15 ft., and the side walls were above 100 ft. in length—one adjoined a common passage. There is not the slightest provision as to internal walls, they are put up 4½ in. thick, and sometimes stiling, except in the best houses. There is no obligation to build party walls up to the slates, and the Jerries do not always do so. The surveyors do their best to get them carried up. There is no definition of a party wall. There are no regulations as to the material on which houses are built. A great many houses have been built on land filled up with ashpit refuse, and the foundations have given way and

* By Mr. J. Clarke. Read at recent Conference.

cracked the walls very much. There are no regulations as to ironwork. No special sizes of timber for warehouse floors. No obligation to lay bearing timbers on edge, so a floor for a 16 ft. room may be 8 in. and 2½ in. planks laid flat—a queer floor. Fence walls and buildings wholly underground are excluded. The strengths given for wooden beams is too small in many cases for warehouses. Nothing about roof principals.

You will see that the foregoing very much increase the duties of the already very much overworked surveyors, and seriously mar the efficiency of the act.

The Fire Prevention Act does not apply to dwellings or public buildings. When a new act is formed it would be needful to include provision as to the safety from fire for dwellings, and especially for places of public resort.

It is a matter of question whether all plans should be submitted and passed, and I am inclined to think it unnecessary, as the disadvantage of having the surveyors to look over the drawings and say whether they are correct is very great, for some matters might escape attention, and then the builders would say when the discrepancies were found out, "Oh! but you have passed the plans and this was on them," and it would tie the hands of the surveyors to a great extent. Also they would not be so inclined to look sharp after the building when they saw that the plans were according to the act. The Liverpool Jerries are aware of this, and carry it to perfection, for they send in different plans to those they intend to build from.

One of the greatest difficulties is the finding out of alterations and new buildings. I think if the builders were prosecuted a little more it would act as a deterrent to this sort of thing.

I have thus endeavoured to bring before you the necessity of a General Building Act, and some of the disadvantages we in Liverpool observe arising out of the present system.

CORRESPONDENCE.

GENERAL CODE OF BUILDING REGULATIONS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—The subject of a general code of Building Regulations for the United Kingdom having been discussed at the recent Conference of Architects (as reported in your journal), the council of this Institute have appointed a committee to communicate with the provincial architectural societies and the Local Government Board, and to report to our council on the subject. Meanwhile this committee would be glad to receive from architects practising in the provinces any communications relating to this matter—especially with reference to the defects of building bye-laws at present in force; and such other details as their experience leads them to consider it desirable to embody in a general code of the kind proposed. The council hope that the great importance of this subject to the profession and to the public at large will induce those who have considered it to give our committee all the information in their power. Communications should be addressed to me before the 31st of July.

CHARLES L. EASTLAKE, Sec.
Institute of British Architects,
9 Conduit-street, London.

"ARCHITECTURE AT THE BELFAST INDUSTRIAL EXHIBITION."

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—It is to be regretted that, from some cause (let us hope *modestly*), your Art-critic of the 15th inst. did not affix his signature to his slashing article—that he did not *sail* or *rail* under a *nom de plume* or a *nom de guerre*.

We of the Belfast Architectural Association have much need of a Boanerges in this critical period of our history. We should like, therefore, to be favoured with an original lecture

from such a man, as we have been filled to repletion with such cold stuffing as compilations from Weale's Series, &c., on "Mill Chimneys"; cold collations from tradesmen's circulars and from obsolete mathematical works on "Warming and Ventilating"; or preconceived notions on "Country Banks" by pinfeathered tyros. Something to warm us up would be a godsend.

We had only one warm subject last session, and that cropped up late on last evening. Strange to say, some of us feel the heat even to this day, and burn to ventilate the subject still further—so much so, that we cannot refrain from doing the hit-and-miss ventilator when we get the chance. We are on the look out for the "Coming man" to lecture us, and we promise him a bumper house.

"Our double tricks, our black mistakes,
Our fallings an' mischances,
He, for our thoughtless, careless sakes,
Would there propose defences.
We'd see his works with our's compared,
An' shudder at the niffer;
But cast a moment's fair regard—
What mak's the mighty differ?"

—Yours, &c.,
Belfast, June 26, 1876.

J. S.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Criticism, before it fulminates such an article as crept into your last issue, should at least be accurate as to facts; none but a hot-headed amateur with a *cacoethes scribendi* would in his preliminary canter start with a glaring inaccuracy. But then, to use a few paragraphs from his own jumble, we might say that a bourgeois floridness of treatment in a critique almost always takes well with the general public; and plagiarisms, if properly "cooked" have a similar go and flavour, but then "this is an example only dangerous to follow" when a critic "incurs the risk of learning to prefer texture to truth of outline and picturesqueness to proportion," whatever all that means.

It is obvious that there is a load of debt hanging on the mind of the writer of the article—"a burden greater than he could bear." In reading it, your subscribers would much need to remember Byron's advice anent the advisability of "putting trust in critics, who themselves are sore":—

"When some brisk youth, the tenant of a stall,
Employs a pen less pointed than an awl,
Leaves his snug shop, forsakes his store of shoes,
St. Crispin quits and cobbles for the Muse."

The good taste and glaring inaccuracies of the article only reached its culminating point when the critic crawled "*the very topmost of Miss Bonnett*," and the entire affair was a fine sample of that class of rhetoric called *rymarole*, which the readers of your valuable journal are fortunately not acquainted with.

—Yours respectfully,

P. MULLAN.
Rockmount, Ballyvesey, Carnmoney,
Belfast.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—As an appendix to the critique, in your last issue, of the Belfast Architectural Association's exhibits, may I invoke your co-operation in the endeavour to obtain recognition, if not justice, for a very clever young man whose pen-and-ink drawings were, by the hanging committee, "skied," for obvious and kindly reasons of their own. Suspiciously enough, these drawings are also "very much skied" by your critical Calcraft, doubtless for similar reasons. The drawings I refer to—Clones and Devenish Round Towers, but Donegal Castle *par excellence*—are not hung so very close to the ceiling of the Ulster Hall, nor the seventh heaven of perfection, except in the opinions of their author and his friend the architectural Gamaliel of our Celtic Athens. It is to be hoped you will see your way to photo-lithographing these "creditable" drawings, and just as they are, without further "cookery," for the benefit of architects, archaeologists, and curiosity-hunters, who will have an opportunity of studying the extraordinary behaviour, as sketched, of building material

in Donegal Castle—a convenient if not *bizarre* arrangement of corbel and cloud.

We all rejoice to be favoured with your own criticism, and your matured judgment is entitled to our best respect; but the authorship of the criticism in last issue is extensively recognised in local circles. It would carry its own peculiar weight, and have its proper value stamped on it, if it had even been initialled; the reputation of its authors for cleverness would be still further evidenced, and no one would have reason to feel as if they got a blow in the dark.

No man—whether architect, draughtsman, or artist—should have any objection to an honest criticism of his works from friend or foe, from novice or professional, when the author of such criticism decently signs his name to it; but 'tis a sad thing to have your ever welcome IRISH BUILDER turned into an anonymous vehicle for black-balling the reputation of architects and others by parties who cannot discriminate between Gothic and Queen Anne, nor tell Flemish from French,—by pseudo-critics who never drew a line of Scottish Baronial in their lives, and don't know for the life of them what are its merits or demerits, whose knowledge of "dignity of treatment," personal or architectural, is as vague as their knowledge of drawing or their acquaintance with Italian detail,—by *aspiring smart* (!) writers, the range of whose architectural draughtsmanship or experience never included the spire of a church, and who evidence their incapacity to appreciate a most graceful and successful grouping of "lucarne" and pinnacle so as to approach *unabruptly* the octagon spire from the square tower. 'Tis amusing to see dwarfs throwing pebbles against giants; but 'tis only amusing when we see the dwarfs. The hankering after a reputation for cleverness is with some people a necessity, or else the Belfast public would have been spared a few exhibitions lately, and some folks would have been spared the ignominy of "eating the leek."—Yours, &c.,
J. J. PHILLIPS.

Belfast, June 27, 1876.

[We willingly allow our valued correspondents to ventilate their opinions in this journal. For reasons best known to ourselves we refrain from commenting just now on some of the statements made in the Belfast letters above.—Ed. I. B.]

HOME AND FOREIGN NOTES.

THE FIRST STONE OF A NEW WESLEYAN CHURCH has been laid at the Curragh Camp. It is intended to supersede an iron erection placed in the vicinity of the camp some twenty years ago, and which had become worn out and unsuitable. The new building will accommodate about 500. It has been designed by Mr. Wonnacott, of Farnham, Surrey. The contractor is Mr. Matthew Irwin, Newbridge. The cost is estimated at about £2,000.

PEMBROKE TOWNSHIP.—A special meeting of the commissioners is summoned for Monday next, 3rd inst., to consider a scheme for the main drainage of the township. It is reported that the commissioners of the Rathmines Township will join in the scheme. From the business-like way in which our suburban boards conduct their affairs, we opine that no time will be lost in pushing forward this project. It may possibly be accomplished whilst the "Dublin Sixty" are asleep, and the Liffey continues to send forth its sweet perfume!

A STEAM VELOCIPED.—A Berlin mechanic has invented a steam velocipede, which is said to answer admirably. The engine is heated with petroleum, and, being placed on the two back wheels does not interfere with the convenience of the driver. We have little doubt that the "tarnation cute" Yankee will back the invention by the invention of a steam bicycle.

THE INSTITUTION OF CIVIL ENGINEERS (LONDON).—A new list of the members of this incorporated society has just been issued, from which it appears that there are now on the books 2,876 of all classes, distributed as follows, viz.:—868 members, 1,595 associates, 14 honorary members, and 399 students. In the last three months there has been an increase of 13 members, 45 associates, and 8 students, together 66, while the number of honorary members remains the same.

Studies in Design.—By Dr. Dresser. London: Cassell, Petter and Galpin. The concluding part of this work is to hand. Subscribers are informed that handsome cloth cases for binding can be had at 7s. 6d. The work should be in the hands of every art student and decorator—to them it will be found invaluable.

EXETER CATHEDRAL.—The restored choir of Exeter Cathedral has been formally opened for Divine Service. The restoration has been carried out at a cost of £250,000. It is proposed to restore the nave at a further cost of £15,000.

UNIQUE RE-BUILDING.—The *City Press* (London) observes that a unique specimen of re-building may be seen in Queen Victoria-street, at the top of St. Andrew's hill, in which "warmth" of colour, historical illustration, and general decoration are combined most happily. Conspicuous near the top of the house is a representation of the Castle Baynard of olden times, with the city arms underneath.

PENSION TO MRS. BANIM.—Mr. Disraeli has recommended for pensions out of the Civil Service Fund Mrs. Banim, the widow of the author of *Tales of the O'Hara Family* (£50); the Rev. J. G. Wood, author of numerous popular works of Natural History (£100); and J. W. Rumsey, M.D., F.R.S. (£100).

STATUE TO WILLIAM TYNDALE.—A site has been offered by the Board of Works for the erection of a monument to William Tyndale, the first translator of the Bible into English, on the Thames Embankment, at the west end of the Ornamental Garden west of Charing-cross railway station.

THE AIR OF CITIES.—The *British Medical Journal* says that a series of official observations on the air of Glasgow is about to be begun. Dr. Russell, the medical officer of health, has associated with himself Dr. J. Coates and Mr. Dickson, the former of whom will undertake the microscopic examination of air-workings, and the latter the chemical. The results should be exceedingly interesting, and the example might with advantage be followed in other great cities.

STREET OBSTRUCTIONS IN COLERAINE.—At the weekly meeting of the commissioners, Mr. Mooney said he had called the attention of the town officer to the fact that goods were exposed for sale opposite the shops of some of the traders in the town; and as he was required to pay toll for any article he offered for sale on the Diamond, he thought those gentlemen ought to be required to remove their goods to the inside of their warehouses. Mr. Henry—Make a motion to that effect, and I will second it. Mr. Mooney then moved that the parties be noticed to remove goods exposed on the street; otherwise that they be summoned for obstructing the thoroughfare. Mr. Douglas—That is, I am to notice those only who expose goods for sale on the street? The chairman—I think that is the meaning of the motion. Mr. Anderson (who had been mentioned in connection with Mr. Mooney's statement) said he had not exposed any of his goods for sale on the street; he had sufficient space in his warehouse for the purpose. He had nothing outside but boxes; and, if he could not take them in and out, it would not be easy to carry on business. The motion was adopted.

THE OPENING OF ST. STEPHEN'S GREEN.

FOR some months back we have purposely refrained from taking any particular notice of the doings of the Corporation of Dublin. That body has shown in the meantime no sign of improvement, either in the tone of its debates or in the conduct of the affairs of the city. We were often tempted to comment of late on the evidence adduced before the committee of the House of Commons regarding municipal management in Dublin. It was a tempting subject for exposing more fully the acts of officials, and the chronic neglect that led to a very sad state of things. We held our peace; but the conduct of our Corporation on the head of the generous offer of Sir Arthur Guinness compels us to say that the word disgraceful is hardly strong enough to apply to such conduct. An honourable offer, though partly opposed at first, was carried by a regular vote, but faction, discontented, and ever forgetful of public benefactors, turns round to undo the work it was pledged to carry out. For long years in this journal, and alone, we have advocated the opening of

St. Stephen's-green for the working classes of Dublin. Public opinion was at last with us, and at the moment when the wish of the great majority of the citizens was about being realized, the men who should be foremost in helping, are first and last in opposition to the people's desire. We have no faith in the sincerity of their protestations, nor their reasons for not complying with the proposal laid before them. There was nothing antagonistic to the common weal in the arrangement made for the transfer of the care of the Green to other hands. If the Corporation of Dublin was truly representative of the wealth and intellect of Dublin, and if it had during the last quarter of a century proved its capacity for governing the city as it ought and should be governed, it would have our voice in its favour, not only for managing the Green, but for the management and control of other matters at present out of its hands. It has, however, so often and so signally proved its unfitness, that we cannot place any trust in its pledges. The Green would be better cared for, and a more fitting public resort for the health and recreation of our citizens under other hands than under the Corporation. Remembering, as we do, what the Corporation undertook to do, and what it failed to do, despite its continued pledges, we are certain if St. Stephen's-green were entirely in their hands it would not long continue an ornamental garden. The chance would be that it might become a very ordinary common. Despite, however, of signs of ill omen, we do trust that St. Stephen's-green will not be much longer closed in the face of our citizens, and that every class will participate in the advantage of a people's garden in the centre of our city.

Since the above was written we learn that Mr. Maurice Brooks last night asked the Financial Secretary to the Treasury if it was true that the Government undertook to recommend to Parliament to grant an annual sum for the maintenance of St. Stephen's-green as a people's park; whether they have communicated to the Lord Mayor and Corporation of the conditions upon which the Government will adopt such a course—if its adoption was to be conditional; and whether he will lay upon the table of the House copies of all correspondence and documents relating to this subject? The secretary said: In answer to the hon. member I have to state that it is true that the Government undertook to recommend to Parliament to grant annually a sum for the maintenance of St. Stephen's-green. It was done under these circumstances: Early last spring the colleague of the hon. member entered into negotiations, resulting in the handsome offer from the senior member for Dublin to pay off the debenture debts, on condition of the Corporation surrendering their rights. The Corporation of Dublin, by a resolution of the 12th May, agreed to forego certain rights and to contribute something towards the maintenance of the Green; but I regret to say that since then they have passed a resolution of an opposite character, and that they are not now prepared to carry out the undertaking. Under these circumstances, therefore, the agreement falls through.

ELIGIBLE BUILDING SITES.

In our advertising columns appears a list of sites suitable for the erection of middle-class houses, now so much sought after. The localities in which ground is offered by the owners are about the best circumstanced in the city and its neighbourhood. When we mention that no expense has been spared in laying in the Varttry water, and providing sewerage in all the streets, it will be seen that the "County and City Building Company" are determined to do good service in promoting the increase of healthy dwellings. They are becoming so numerous that we wonder often where their occupiers alight from to tenant them.

TO CORRESPONDENTS.

T. F. (Over Darwen).—Enclosure to hand—thanks. Will read your letter at earliest convenience.
W. J. (Cork).—Send postage stamps for the amount.
INQUIRER.—Our issues for some months past have had four pages added to them. This has been rendered necessary by the patronage extended to our advertisement columns, as well as to the great increase in our circulation, for which we have to thank our friends in all quarters.
Some articles and correspondence in hand intended for this issue, is unavoidably crushed out.
T. L. (Dartmouth).—Thanks.
H. B. (London).—Will be attended to.
NORTHERN ATHENS—ARCHITECT (Kingstown).—See this issue.
R. H. A., &c.

NOTICE.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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Mucross-parade	St. Vincent-street
Mangerton-parade	Thomond terrace
Glengarriff-parade	Home Rule-terrace
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FELLOW OF THE ROYAL HIST. AND ARCHL. ASSOC. IRELAND.

PRESS NOTICES.

Athenæum.—We cannot now continue an examination of the contents of Mr. Brash's capital book. Let it suffice them that we recommend the perusal of the chapters on the churches of the Cistercian Order, Fonts, some of which have curious peculiarities, Masonry, and Early Christian Masonry. . . . Mr. Brash is a painstaking and accomplished student.

Academy.—Since Petrie gave to the public his (alas!) unfinished work on the Ecclesiastical Architecture of Ireland previous to the Anglo-Norman Invasion, the work which heads this article is the most important and valuable contribution to an interesting and almost unexplored branch of knowledge. . . . The volume does great credit to the enterprising publisher.

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The Irish Builder.

VOL. XVIII.—No. 398.

Notes on Newcomen and others.



Our issue of the 15th of June, we briefly noticed a tract, entitled "Notes on the Model of Newcomen's Steam Engine (1705)," exhibited in the Special Loan Collection of Scientific Apparatus now on view at South Kensington Museum. The tract in question, published by E. and F. N. Spon, London, is only one of a series written by Mr. Thomas Lidstone, of Dartmouth, a local architect and diocesan surveyor. This gentleman has expended much time and considerable sums of money in the creditable task of inquiry and research to do honour to the name of Newcomen, by unearthing all the particulars obtainable at home and abroad connected with that inventor's early life, and the invention with which his name and the history of the steam engine are now inseparably connected. We are glad to say success has attended his industry. Mr. Lidstone's literary labours concerning Newcomen dates back a quarter of a century. His first tract was published in 1851; the second in 1869; the third, "A Few Notes and Queries about Newcomen," appeared in 1871; and, together with the one already noticed, and which has suggested our remarks, there is another paper in preparation by Mr. Lidstone which was read before the Royal Archaeological Institute of Great Britain and Ireland, Exeter (1873). This is to be enlarged with authorities and notes, under the title of "What is known of Mr. Newcomen, Inventor of the Steam Engine," &c.

Such industry, which is undoubtedly a labour of love, deserves success, and should not only command it in Dartmouth, but through Great Britain. The Glasgow model of Newcomen's engine—the one which Watt was repairing when he invented his improvements,—has now been added to the Special Loan Collection at South Kensington, and is ticketed thus: "In 1765 James Watt, in working to repair this model belonging to the Natural Philosophy class in the University of Glasgow, made the discovery of a separate condenser, which has identified his name with that of the steam engine."

There is a story long current of Watt which has passed into history, and which has formed the subject of a picture showing his home and surroundings, and the peculiarities of his character when intensely engaged in watching the results of the power of steam. This tea-kettle incident may or may not be the fact, possibly it is true; but the same story, we are informed, was long before, and is still, current at Dartmouth, in relation to Newcomen. It is also usual to speak of Newcomen as a commonplace man or an humble locksmith; the contrary would appear to be the truth. He must have had a liberal education, for we find him in correspondence with some leading philosophic and scientific minds of his day, and among them Dr. Robert Hooke of the Royal Society. Hooke was acquainted with Papin's speculations, but Newcomen's method of effecting the conden-

sation was entirely different from Papin's. In fact there is no proof, as far as we know, of Papin constructing any model at all. Thomas Savery, a Devonshire man like Newcomen, is credited with having made the first actual working steam engine, but this and previous machines were after all only pumps for raising water, and they were all of an unimportant character until Newcomen's invention effected somewhat of a revolution. Beighton, Smeaton, and other engineers before Watt's time made some slight improvements on Newcomen's engine, but Watt effected a great improvement, and in the blaze of his success other pioneers were almost forgotten for long years. As one of the pioneers Newcomen's name deserves more ample recognition from his countrymen in general, and his townsmen in particular, than it has hitherto received. Newcomen's invention could not be the result of an accident no more than Watt's improvements. It is certain that he arrived at the result by experiments based on scientific data, well considered and applied.

Since Watt's time we have had several improvers of the steam engine,—stationary engines, locomotives, marine engines, and cognate ones used for inland navigation and other purposes.

In reading a volume of the *Anthologia Hibernica* for 1793 several months ago we came across a letter written by "A Traveller," descriptive of the physical geography of certain districts in the counties Kildare and Kilkenny. In describing certain coal pits on the lands of Doonan he furnishes an interesting account of a mechanical genius who was almost "born to blush unseen." The "Traveller" speaks of large quantities of water being discharged from the pits by means of an "improved steam engine." This, we are told, though originally constructed by Boulton and Watt, "is still more improved by the present ingenious engineer, Mr. Fenlon." We are told the power is considerably augmented and the quantity of fire much reduced, saving about one-third of the coals necessary to the engines of the original patentees.

The engine at Doonan worked nineteen strokes in a minute, raising a quantity of water equal to sixteen hogsheads, or ninety-six tons, in twenty-four hours from a depth of fifty-four yards. We have the following account of the inventor or "improver," which is worthy of quotation, for we have not met with elsewhere in the course of all our reading any other record of the clever self-taught mechanical genius:—"Mr. Fenlon is one of these *élèves* of nature who ornament every country where they are found. A native of the soil, without any education, by the effort of genius only he has not only made himself perfect master of mechanics and steam engines in general, but most parts of the mathematical and philosophical sciences. He constructs the engine in most material parts himself, as casting the tubes, turning the rods, &c. He also constructed one on the same principles in the North [of Ireland], and at present is employed on, and has nearly finished, a small steam engine for the purpose of working boats on canals, &c. The simplicity of this construction, the small space it occupies, and the inconsiderable quantity of coals necessary, with velocity of motion communicated is really astonishing. When completed, he intends applying to Government for a patent, who undoubtedly will use every exertion for the encouragement

of an invention of such universal utility to the public."

It would be worth searching the records of the Irish Parliament between 1793-1800 to see if anything turned up respecting Mr. Fenlon's patents, or among the patents lists of this country. Fly-boats by horse-power continued on the Irish canals down to the advent of the railway system. When Mr. Fenlon died we at present know not, but we would like to unearth some more particulars of his after life and inventions. Like most humble men of genius, he seems to have been forgotten, although doubtless, like Newcomen, his brain had been picked by his contemporaries and successors, who have a genius for piracy, but none for original creation. In the "Transactions" of the Royal Irish Academy for 1789 we have a "Description of a Steam Engine," by J. Cooke, Esq., M.R.I.A. This machine was intended to produce a continuous and rotary motion, and consisted of three principal parts, the wheel, the case, and the condenser, the last the same as in Watt's engine. A plate accompanies a paper explaining the parts in working. Those specially interested can doubtless consult the "Transactions" for a description at length, as we merely instance the matter here to show that the subject of steam and steam engines received some attention in Ireland in the last century. In the "Annals of Dublin," compiled for our old Dublin directories, it is stated, under the date 1791, that the first steam engine was erected in Dublin in that year by one Henry Jackson.

We must not omit to mention here, in connection with our subject, that the zeal of Mr. Lidstone has led him to expend, we believe, upwards of £1,500 in the reproduction of Newcomen House, in Dartmouth, out of respect for a townsman's memory. Would that this love and veneration was more common in this work-a-day world of ours. It was no doubt, to a certain extent, a congenial taste for an architect animated as Mr. Lidstone has been for years. His unceasing inquiries have been quickened by the publication and reception of his tracts, and he has now in hands, we hear, sufficient material to produce a memoir, or at least as much as there is likely to become known of Newcomen, who must be looked upon as a benefactor of his race. Having been in direct communication with the descendants of the inventor, in England and Scotland, another desire has grown out of the former, and Mr. Lidstone hopes to see a public memorial erected to Newcomen's memory in his native town Dartmouth—something of a high class, of an educational character, and connected with steam engineering. *En passant*, the house in which Newcomen lived, where he invented the steam engine was situate in Lower-street, Dartmouth. It was sold and taken down by order of the sanitary authority. Mr. Lidstone purchased the ancient carved and moulded work of its street frontage, &c., which he rebuilt in 1868, on the Ridgeway, in the same town. This house is now known as Newcomen Cottage. Further we may add, in respect to this house that it has been built out of remains of houses and churches from Dartmouth and neighbourhood during the last thirty years, as well as that belonging to the residence of the inventor, Thomas Newcomen.

We have been casting about lately in this the city to see could we obtain any traces of Newcomen in Ireland. The family name

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has been known in this country for some centuries, and boasts, we believe, of great antiquity. The Irish branch came over here from England during the reign of Elizabeth, and we find them seated at Kenagh in the county Longford in the reign of James I., by whom they were created baronets in 1623. In consequence of the failure of heirs male, in 1789, the title became extinct, but the estates devolved upon Charlotte Newcomen, and only child and heir of Charles Newcomen, of Carrickglass, grandson of Sir T. Newcomen, the sixth baronet. The rich heiress was born in 1755, and became the wife of the Right Honourable Sir William Gleadowe Newcomen, of Killester House, Dublin, Bart. In consequence of this alliance, he assumed the name and arms of Newcomen. He was soon after elected a knight of the shire in the Irish Parliament for the county of Longford, became a privy councillor, and gave his name to a noted bank which existed in Castle-street, Dublin, for many years.

By Charlotte Newcomen, Sir William Gleadowe (Newcomen) had four children—three sons and a daughter. Sir Gleadowe died in 1807, and was succeeded by his only son, Sir Thomas, both as a baronet and a knight of the shire. Lady Gleadowe Newcomen was promoted to the peerage in her own right, during the lifetime of her husband, as Baroness Newcomen, in 1800, and further advanced to a viscountess in 1862, with remainder to heirs male. Though with large possessions in Ireland, she resided mostly in England, and died at Bath in 1817, at the age of sixty-two. Her only son, born in 1776, became Viscount Newcomen.

We give these particulars, not because we are able to establish any relation between the inventor, Thomas Newcomen and the Irish branch of the family, but because it will be interesting in connection with the name.

The name of Newcomen has been given to a bridge erected over the Liffey branch of the Royal Canal, erected during the era of the Irish Parliament, and one of the approaches, on the city side of the canal, is known as Newcomen-terrace. If we are right in our belief, this bridge received its name through an intention of doing honour to Sir Gleadowe Newcomen, who, besides being a noted Dublin citizen and banker in his day, was also associated with it locally. Sir Gleadowe Newcomen's private mansion and grounds, situated at Killester, was not far distant, and the North Strand-road, over the new Newcomen Bridge, and the new tidal bridge (Annesley Bridge), over the River Tolka, was the direct route to the baronet's well-known suburban retreat. Early in the last century, the route to places on the Clontarf coast, beyond the Tolka, lay quarter of a mile further to the left, over the Ballybough Bridge.

The Newcomens of Ireland were most probably one of those English families who obtained grants out of the forfeited estates before and after the attainder of the great Earls of Kildare and Desmond and the confiscated estates of the church. Many of these English families settled in Ireland from the last Edward III. down to the first Charles, 1625, and for the most part were younger sons of ancient noble British and Scotch houses. Perhaps the industry of Mr. Ledstone might succeed in tracing the descent of Thomas Newcomen of Dartmouth

from the wealthier and more aristocratic Newcomens of Devonshire or other western counties. However, Thomas Newcomen, the inventor, needs no other patent for nobility than the proof of his great invention, which, though it did not lead to the enriching of himself, has led to the benefitting of the human race at home and abroad. A memorial to his memory in his native town is the least his countrymen should cheerfully erect to his honour and in perpetuation of his name.

THE "SUBLIME AND BEAUTIFUL" IN ART.

A THOUGHTFUL and suggestive article appears in last issue of our London contemporary, the *Builder*, entitled "Refinement and Building," which is worthy of perusal. We are almost prone to take up the text of the writer, and follow at some length; but as other opportunities will occur, from time to time, for discussing the subject from different points of view, we will think further over what we were inclined to say in detail. A short extract or two in the meantime from the article of the *Builder*, with a word or two in passing, will not be out of place:—

According to the Socratic dictum, men differ as to what is fleeting, and agree as to what is eternal. It would be well if in architecture they differed only as regards form and details which are fleeting, and agreed about principles which are eternally true. But it does not seem that a principle of construction is yet acknowledged to be inviolable, nor, indeed, that any such thing as a principle is generally recognised. Nevertheless, after a protracted dallying with the beauties of every known method of structure and decoration, there is springing up an inclination, amongst architects at least, to reform the present mode of ornamental building upon a basis of common sense rules. But, we take it, people must be first brought to understand what these rules are, and, before all, to define the real meaning of that hackneyed compound word, common-sense, when it is technically applied. Nothing can be more indisputable than the repeated assertion that true architecture combines the useful and the beautiful; but how and to what extent beauty is to be added to utility is a fruitful theme of discussion, and one to which the usual resort to natural evidence or example brings little aid. Fitness, according to Burke, is not only not always the cause of beauty, but, in nature, experience shows use and beauty to be in no way dependent on each other. "The Idea," said he, "which mankind most commonly conceive of proportion is the suitability of means to certain ends. . . . Therefore it was necessary for this theory to insist that not only artificial, but natural objects took their beauty from the fitness of the parts for their several purposes. But . . . on that principle the wedge-like snout of a swine, with its tough cartilage at the end, the little sunk eyes, and the whole make of the head, so well adapted to its offices of digging and rooting, would be extremely beautiful."

Edmund Burke was right in one respect, but if the pigs should have a voice in the matter and could speak, they might have a higher opinion of their own beauty than we have. Each species of the brute creation should be judged by itself. The horse as a horse, the sheep as a sheep, and the pig as a pig. They are each and all well adapted for the purpose for which they were intended, and where artificial rearing has not destroyed their usual characteristics and instincts, there is a certain beauty connected with their nature and form. There are handsome men, and what we call ordinary and ugly men, and many of our artificially reared and fed animals, and pigs particularly, are as ugly as many of our public and domestic buildings.

Here is another extract from the article in the *Builder*:—

Human happiness, according to Swift in the "Tale of a Tub," is a perpetual possession of being well deceived; and to satisfy the cultivated mind and humour the equally cultivated eye was the aim which the Greek attained. Those who for 300 years have been sticking or hanging columns and pilasters to stone and brick walls; crowning them

with pediments; and heaping, in laboured caricature, fragmental imitations of antiquity one over and against another, did not know how the Greek master finessed in order to insure observers of his own and future times a perpetual possession of artistic happiness. They believed that classical architecture could be revived by the symmetrical distribution of certain columns and cornices of certain shapes; and that symmetry meant similarity of arrangement and preciseness of dimension. It was only during the early years of this century that the truth was discovered; and, as we have already shown, principally by the labours of Englishmen—at least as far as Greece is concerned. . . . It requires intellect to put together a plain, simple, and genuine edifice; whereas, mere artistic superficiality can accomplish with ease what is picturesque, pretty, and pretentious. Simplicity and genuineness mean refinement as Englishmen understand—aye, as the ancient Greeks understood—the term. They mean something which is the natural enemy of burlesque and masquerade. They mean work for gentlemen and men of intellect; and unless this class of the community chooses to interest itself seriously in architectural matters, the progress and improvement of modern cities is impossible; for, although regeneration in national policy may sometimes spring from inferior popular strata, regeneration in national art must descend from the cultivated classes of society.

True, very true; but the future cultivated classes of society will not necessarily belong to what we now call the "upper classes." Many of our great inventors and reformers came from "inferior popular strata," so called; but with an educated, industrial, and art loving people in general, regeneration in national art as well as in other matters is certain.

NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.*

FROM towards the close of the seventeenth to the middle of the eighteenth century several minor, as well as popular, dramatic writers flourished and faded. Several of the minor class were also actors, who experienced the vicissitudes of a player's life on the boards of provincial theatres or in travelling booths. We have lists of plays written by the latter class, but we have little account of the birth, parentage, and lives of the authors or actors themselves. Many of these authors and actors dropped out of life in unknown places, and have passed into their mother earth without an obituary, tombstone, or epitaph. Diligent students of history and biography long after these men's deaths have unearthed brief particulars of their middle passage through life, but the majority of these waifs of the dramatic world speak to us alone through their fugitive writings. We have already spoken of several of the more popular dramatic writers born in Ireland or closely connected with the early history of our stage, but there are others yet whose successes and failures we have not passed under review.

William Congreve, though claimed as an Irishman by more than one native writer, was not born in this country, but in Bardsey, in the neighbourhood of Leeds, in 1670. But though not a native he spent his childhood and part of his earlier years in Ireland, being educated for some time at a school in Kilkenny before passing into Trinity College. His tutor, St. George Ashe, at Kilkenny (afterwards the Protestant Bishop of Clogher and Derry) was also the tutor of Swift. It may be as well to quote here the entry in the register of Trinity College as to Congreve's birth-place, for though we have a strong claim upon him and his writings by education and location we must accept his own statement as a fact. The entry is as follows:—"1685, die quinto Aprilus hora pomerid Gulielmus Congreve pensionis filius Guli Congreve generosi de Youghalia annos natus sexdecim natus Bardsagram in Com Eboracen educ Kilkennise sat ferula doct Hinton."

Congreve appears to have been well grounded in Latin and Greek literature, and at school as well as college to have reflected

* See ante.

credit on his instructors. After completing his college education he passed to London and entered the Middle Temple, but the study of the law did not agree with his aspirations. His first impulse shows a desire for literary fame, but his later life shows that he longed to be a man of high gentility or fashion. Literary fame he, however, achieved by his dramatic writings. His first literary effort was a novel, "Love and Duty Reconcoiled." This Congreve published under the assumed name of "Cleophil," when he was about seventeen years of age. The work was not of much account. His first regular play was the "Old Bachelor," 1693. The dialogue is full of wit, and the play was well received, though inferior to the author's other comedies. Dryden had a high opinion of it and did his best to make it a success, expressing his mind to the effect that he never saw such a first play. The acting of the "Old Bachelor" was a complete triumph on the stage, and paved the way for the future preferment of the author. Congreve's next play was the "Double Dealer," 1674, in which he greatly improved upon his former work. Though somewhat coldly received at first, the "Double Dealer" eventually conquered the applause of the play-going public. In 1695, "Love for Love" appeared, one of his most successful comedies up to that time. It was brought out by Betterton at the opening of the new house at Lincoln's Inn-fields. The actors were so well pleased with the success of this piece that Congreve was offered a share in the profits of the theatre on the condition of producing a play every year, health permitting. His next play, the "Mourning Bride," a tragedy, did not come out till 1697. Its triumph was beyond that of "Love for Love," and Congreve was now looked upon as the first tragic, as he was previously talked of as the first comic, dramatist of his time. Fame came to him early, for he was now but twenty-seven years of age. The publication of Collier's "Short View of the Profaneness and Immorality of the English Stage," in 1698, drew a reply from Congreve, but it was weak, and it would have been well for the dramatist that he had, like Dryden, kept his silence. The latter, though particularly aimed at by Collier, showed discretion at the time was the better part of valour. Collier's censures of the stage were severe, but it cannot be said they were unjust or uncalled for. They led to a reform; and now, nearly two centuries later, there is much to reform in connection with the British Stage. The "Way of the World" appeared in 1700. It is a well-considered and well-written play, but it met an indifferent reception. Probably owing to its cool reception and to the blows previously given by Collier, our worthy author resolved to write no more for the stage.

Congreve lived on rather small means until the House of Hanover came to the throne; after that event his financial prospects brightened. He was made, in 1714, Secretary to the Island of Jamaica, his income amounting to £1,200 a year—a good fortune in his declining days for a man who, like our dramatist, practised frugality all his life. A volume of the miscellaneous pieces of Congreve was published in 1700, but they are not of much value. Besides those mentioned there are two other dramatic pieces put down in the list of Congreve's productions: the "Judgment of Paris," a masque, 1701, and "Semile," an opera, in 1707. Nearly the last twenty years of Congreve's life were spent in ease and retirement. Towards the close of his life he suffered much from gout. In 1728, the year previous to his death, Congreve made a journey to Bath, for the benefit of its waters. He was then suffering from blindness as well as gout. During his tour he was overturned in his chariot, and received an internal injury which hastened his death. He died on the 19th of January, 1729, at the age of 57, at his house in Surrey-street, Strand, London, and was buried in Westminster Abbey. When Voltaire came to England he visited Congreve, and passed some compliments in relation to his works.

Congreve thanked him, but disclaimed the character of a poet or author, saying that he wished to be considered in the character of a private gentleman. Voltaire could not understand this extraordinary whim or affectation on the part of Congreve, who, however, appeared for years to have looked upon his early dramatic performances with growing dislike. "If you had been merely a gentleman," replied Voltaire, "I should not have come to see you." Pope passed over lords and dedicated his "Iliad" to Congreve—a proof of his high esteem for the dramatist. The works of Leigh Hunt and the criticisms of Hazlitt and Macaulay may be consulted for an estimate of the genius of Congreve. The plays of our dramatist have often been acted on the boards of our Dublin theatres in the last and present century; and, from his associations with Ireland and his merit as a dramatist, Congreve is entitled to have a favourable review in these pages. Politically speaking, Congreve comes in for a satiric touch in Swift's lines on Dr. Delaney and Carteret. The Dean of St. Patrick's thus speaks of him—

"Thus Congreve spent in writing plays,
And one poor office, half his days;
While Montague, who claimed the station,
To be Mæcenas of the nation,
For poets open table kept,
But ne'er considered where they slept,
Himself as rich as fifty Jews,
Was easy, though they wanted shoes;
And crazy Congreve scarce could spare
A shilling to discharge his chair,
Till prudence taught him to appeal
From Pean's fire to party zeal;
Not owing to his happy vein
The fortunes of his latter scene,
Took proper principles to thrive,
And so might every dunce alive."

In conclusion, we may add that the wit of Congreve, according to Macaulay, outshines every comic writer who has arisen during the last two centuries, with the exception of Sheridan.

The name of Robert Ashton is mentioned in some of our theatrical records as the author of a tragedy printed and re-printed numerous times in Dublin during the last century and the present. The name of the play is, "The Battle of Aughrim; or the Fall of Monsieur St. Ruth." The author was of Irish birth, but in what years he was born and died we know not. This play appears to have been written about the year 1727, if not earlier, and was for a long time very popular in the mouths of the youth of Ireland. It has been a piece more used at schools and private theatricals than in public. During our own lifetime we have never known it to be once publicly acted, though we have heard from the lips of our fathers and grandfathers that it was prohibited from being acted in public through the strong party feeling it gave rise to. If it was written, as one native writer has said, "to glorify English rule in Ireland,"* the author of "The Battle of Aughrim" has also succeeded in making himself a favourite with his readers, native or otherwise, and irrespective of sect or party. There are passages in "The Battle of Aughrim" that have been selected and recited by some of our schoolboys of old of the national type, and declaimed with the fervour of enthusiasts who felt thoroughly, though perhaps unconsciously, at home with the sentiments that were moving them.

We would like to know more of a native author whose play has become a sort of Classic in Ireland, and may be found side by side on the stalls and dead walls of the nearly extinct bibliopoles of the pave, with the "Irish Rogues and Rapparees," the "Seven Cham-

* Since writing it has occurred to our memory that it was in his "Introduction to the Ballad Poetry of Ireland," published in 1848, that Charles Gavin Duffy (now Sir Charles) made some allusion to the author of "The Battle of Aughrim." In referring to the volume, which we had not read for many years, we found our quotation and impressions were quite correct. Mr. Duffy writes of "The Battle of Aughrim" as "an historical play, written in the English interest, but with enough of dramatic skill to make the Irish Leaders talk and act naturally in, in lieu of better, a universal favourite with the people. Speeches from it are learned and recited by boys of all classes, but not of all parties, those for whom it was written (till its performance was prohibited) seem to have lost sight of it, or to regard it as a seditious production; the direct reverse being the fact. The author, a student of Trinity College, and a zealous Orangeman, wrote it to glorify English rule in Ireland."

pions of Christendom," and other kindred literature. Another piece, called "Ireland Preserved; or the Siege of Londonderry," is generally found in connection with "The Battle of Aughrim." The latter piece was written by John Michelborne, one of the governors of Londonderry when besieged by James II. in 1688-9. It first appeared, we believe, in folio in 1707. Poor Michelborne, though promised reward for his services at Londonderry, was treated with great neglect afterwards, while Walker has been monumented and his services celebrated to the present time. We read of Michelborne being so far reduced that he was confined for debt in the Fleet Prison, London. It was while incarcerated here that he wrote the single dramatic piece mentioned.

A SWING BRIDGE ON THE TYNE.

A swing bridge erected over the Tyne at Newcastle, at a cost of £233,000, by the River Tyne Improvement Commissioners, has been opened for the use of the public. The charge of the river Tyne was transferred in 1850 from the Corporation of Newcastle to a newly-constituted body called the Tyne Improvement Commission; and since that period the work of improving the river has been carried on under the direction of their chief engineer, Mr. John Ure, who was at one time connected with the Clyde Trust. The river, which used to be full of shoals and very dangerous, is now so improved that it will accommodate vessels of the largest size, which can enter the harbour at all times of the tide, the bar having been removed. The river has been deepened, and at Newcastle (ten miles from the mouth of the river) there is a depth of 18 ft. to 20 ft. at low water; and the Corporation of Newcastle are rebuilding their quay at a cost of about £300,000. The River Commissioners are improving the river for several miles above Newcastle by deepening it to a depth of 12 ft. In order to make the higher reaches of the river navigable for shipping, they nine years ago pulled down the old stone bridge across the river which connected the towns of Newcastle and Gateshead, and in its place have erected a swing bridge. The new bridge is of extraordinary strength, and is the largest work of the kind in this country. The bridge, which has occupied eight years in erecting, has a total length of 530 ft. between the abutments, with a total width of 48 ft. It has six spans, and rests on three piers, which have their foundation on the solid rock at a depth of nearly 50 ft. below the water. The central pier is said to be the most massive piece of masonry in the world, and has to bear the entire weight of the massive swing portion of the bridge, weighing 1,500 tons. The swing girder is 278 ft. long, and its weight is concentrated upon a hydraulic central press, which is within the central pier, which also contains all the hydraulic machinery (in duplicate) for swinging the girder round. When the bridge is swung open there will be two open ways, each 103 ft. wide, for ships to pass up and down; and by this means the river, for several miles above that part hitherto used by shipping, will be available for shipping purposes. The ironwork of the bridge and all the machinery for opening have been manufactured by Sir W. G. Armstrong and Co., and the other work has been done by the River Commissioners' workmen. It may be stated that the bridge is built on exactly the same site as that on which was the bridge built by the Romans under Hadrian, and it is the fourth or fifth bridge which has been erected over the Tyne at that spot. There will be no formal opening until the bridge can be properly swung, which cannot be done until a portion of the temporary bridge is removed.

The "National Gallery" of the *Dublin University Magazine* contains a memoir, with portrait, of Sir Bernard Burke, C.B., LL.D., M.R.I.A. The biographical sketch is an appreciative one, and does no more than strict justice to our distinguished litterateur.

PRIZES FOR COTTAGES, FARM-HOUSES AND OFFICES.

We annex below a portion of the report made by the judges appointed by the Royal Agricultural Society of Ireland, in the matter of works of drainage, cottage building, and farm steading building entered in competition for prizes offered by the Society for work done in 1875. In the opening of the report the judges say:—

We are sorry again to have to remark upon the small number of entries made in the several classes, the numbers being respectively—four lots of drainage, three lots of cottages, built new; no entries for cottages improved; and one lot of farm steadings. Of these, 7 are from Leinster, 2 from Ulster, 1 from Connaught, and no entry from Munster. We are quite unable to account for this, as, from our own actual knowledge, as well as from inquiry we have made, we are well aware that there are large works of improvement in progress in Ireland, and we regret much that proprietors do not enter their works in competition for these prizes, as, although all cannot actually win, still, we think, they would do a public good by showing that they are really working for the improvement of their properties, and a private good to themselves and their men, by submitting their work to be criticised and compared with that of others. We are quite aware that many of those who are carrying on works of this class are very competent to do so, and perhaps more competent than we are; but still, the mere fact of judges going from cottage to cottage must have the effect of carrying comparison which could not otherwise be done, and faults or improvements might not occur to the owners. One reason of the paucity of entries occurs to us to be that the time within which the works are to be done and entered with the secretary, viz., 13 months, is rather short, and we would respectfully suggest to the council the propriety of reconsidering this condition. Where there is a large staff employed it is quite possible to commence and complete a large piece of work within the time limited, but where the works are on a small scale, as in most cases they are, it is very difficult to get a sufficient quantity of work done to enable owners to compete. The result is that such enterprising proprietors as Captain Cosby have rather an undue advantage. Captain Cosby has, within a comparatively short time, laid out upwards of £26,000 on works of improvement on his estate, and has, therefore, a very powerful staff, which enables him to get out a large piece of drainage, or a large number of cottages, or a farm-house and offices within the year, neither of which can be done by small proprietors. In our opinion we think the time allowed should be twenty-four months.

Passing over that portion of the report relating to drainage operations we come to that of

COTTAGES.

The first cottages we had to inspect were a lot of 17 cottages, entered by Captain Cosby, at Stradbally, in the Queen's County, in five separate entries. The first we visited were a lot of 10 cottages, in blocks of a pair each. They are built of concrete, and are covered with red Bridgewater tiles (a material for cover that we are glad to find coming into use in Ireland), and having large porches covered with the same material, and being well set back from the road, with a railing fence in front, present a very neat appearance. The internal accommodation is a kitchen 15 x 13, and two bedrooms over, 13 x 8.6 and 13 x 6.4 approached by a staircase ladder in the kitchen. The walls are perfectly plain, and no provision is made for shelves or cupboards, except in every second house, where there is one cupboard. A fireplace has been provided in one of the bedrooms, but in an inconvenient position, and having no hearthstone, there would be great danger in lighting a fire in it. The bedrooms are divided by a partition formed of studs 3 x 1½, set flat, lathed on one side and plastered on front and on back between the studs, and the studs partly showing at back. This forms a good division between bedrooms, and being only 2½ in. thick, does not take up more room than a wood partition, and is, we think, better. The carpenters' work is rough, and badly finished, and the wood used has not been properly seasoned. The work in these houses has been done by contract, and the cost, as given to us, has been £63 8s. 9d. each house, exclusive of porch to kitchen door and extern offices, the cost of these being—porch, £5 each; and offices, £9 5s. 7d. each house. We have again to repeat the observation of the judges of cottages in former

years, that we think in building concrete cottages much forethought is necessary to prepare cupboards, &c., in the walls, and to introduce blocks into the walls to fasten clothes-racks, &c., to, as we consider Captain Cosby's houses defective in these points. On the whole, we approve of the external appearance of these houses; but we consider that they are hardly as well planned inside as many others that we have seen, and that a simple square room downstairs, divided into two small apartments upstairs, is not sufficient for a model cottage.

The next entry was a pair built in the same row as the foregoing. They are of concrete, and on the same plan. They are rather better finished, and in one gable a bay window has been introduced, which has rather a good effect; but generally the remarks we have made as to the first entry apply to these.

The third entry by Captain Cosby was a block of three cottages in another part of the town of Stradbally. They consist of a very good kitchen, and a sitting-room downstairs and two bed-rooms; a scullery at back, opening into yard, and well furnished with shelves. The kitchens are tiled, and are fitted with good cottage ranges. The sitting floors are wood, and the rooms are fitted with metal grates and mantel-pieces. The houses are built of limestone ashlar work. Two of the houses at the end of the block have bay windows in sitting-rooms. They have a very neat iron rail fence to the street. Altogether, we were much pleased with these houses, and regret that the price—£103—puts them beyond the limit allowed by the society.

Captain Cosby's next entry was a cottage on the townland of Oughlival. It is of mason work, and a plain, substantial plan, without ornament. The accommodation consists of kitchen in centre and two small bedrooms—one at each end. There is no privy, and the entry does not, therefore, come within the rules.

The next entry was also a single house built on the townland of Lower Grange. It is a substantial, well-built stone house, one storey to front, with kitchen, 12 by 10 and room 12 by 8, with bedroom—one room lighted from gable. It is a useful cottage, but does not comply with the conditions laid down by the society. The cost was £58.

We award the provincial gold medal for Leinster to Captain Cosby for his two first entries of cottages.

Lord Carysfort entered nine cottages in competition, in the neighbourhood of Arklow. Plan A, one block of three cottages; plan B, one block of two cottages; and plan C, two blocks of two cottages each. The first we inspected were plan A. The houses have been built parallel to the road, about twenty feet back; the elevation presenting a neat, but plain—and, owing to the peculiar construction of the roofs of the end houses, a peculiar—appearance, and being only four feet to the eave, look low. The accommodation provided consisted of a kitchen, or living room, 16.6 by 13.0, and two bedrooms, each 9 by 7.8, and no upstairs. The floors are of concrete. The partitions are bricks and studs. The walls have not been plastered, but are whitewashed over the masonry. There are no shelves or cupboards or recesses for storage of any sort in the houses. There are no porches, external or internal. The fire-places are formed by projecting walls, with bressummer supporting chimney, and are close to the door, with little or no shelter. The windows are wood, with sashes hinged; doors are plain ledge. The roof timbers project over the walls. They are sheeted with three-quarter-inch boards over rafters, on which slates are laid without rendering or plaster; and the boards being already shrunk, admit draught. The offices provided consist of cow-house and fuel-house, piggery, &c., and are good; but being in a row of three sets, without separation, we do not think are likely to conduce to the peace of the colony. The cost of these cottages is £268 0s. 6d. for three houses, or £89 6s. 10d. each; although it comes within the limit of the conditions, viz., £90, is high for the amount of accommodation provided. The cottages entered on plan B are almost identical with plan A, and the same remarks apply. There is a slight alteration, and, we think, improvement, in the planning of the offices. The cottages on plan C are much the same as the others on the ground-floor plan, but owing to a difference in the construction of the gable roof, they have been able to provide a small bedroom upstairs over the rooms on the ground floor, but with only 9-inch head-room to the wall plate, the kitchen being still open to the roof. This is a decided improvement, but even with this we cannot say they are good cottages, and the cost—£176 14s. 4d. each house—is still large for the accommodation provided. The floors in these houses are of clay, and the walls are not plastered. These houses are built on shalow ground, and on the upside next the road show a height of only 5 feet to the eave.

The last lot of cottages we inspected were those entered by the Worshipful Company of Fishmongers of London, by their agent, Mr. Gage. These cottages consist of a block of two houses built at Ballykelly, in the county of Londonderry, and present some novel points of interest in cottage construction. The accommodation provided consists of a kitchen 16 feet 6 inches by 12 feet, and 10 feet 6 inches by 11 feet 8 inches, and a closet 10 feet 6 inches by 4 feet 3 inches, and a porch on the ground floor, and two bedrooms upstairs 10 feet 6 inches by 6 feet 8 inches, and 10 feet 6 inches by 9 feet 6 inches. The walls are of rubble masonry of a good, but clay slate stone, with common brick facings to windows. The woodwork is all of best Quebec deal, and the carpentry work well done. The roof is covered with queen ton slates, the floor are of good concrete, and the walls and ceilings are well plastered and whitened, and altogether the construction is very superior to what we generally find in cottage building. The house is entered from the gable with a good large porch to shelter the door. The kitchen is large, and, there being no upstairs in it, there is good room for a family. It is open to the roof, and, being 6 feet 6 inches to wall-plate and 2 feet to eave of ceiling, gives ample cubic space. There is a window 4 feet 6 inches by 3 feet 9 inches, with sashes hung to slide. The chimney stack is in the centre of the house, and forms an outside gable to the upstairs rooms, the roof of the kitchen being at a different level from the roof over them. At back of kitchen fire and in the front of the house there is a convenient sitting or bedroom, out of which space has been taken for the staircase (a plain step-ladder, sheeted in at sides and back). At the back of the house, and behind the kitchen fire, there is a small closet room which can be made available for many purposes. These rooms are well lighted. Over these rooms, between the party wall and the chimney gable, the roof is raised to a height of 6 feet over the kitchen roof, and a good room, with a height of 10 feet to the collar, has been got. This has been divided with a board partition into two apartments. We are disposed to think this arrangement of cottage rooms is convenient, and one that might be carried into practice with advantage, although considerable modification might be made in some of the dimensions.

In the estimate of the cost of these houses, it is stated that they cost £179 0s. 11d., or £89 10s. 5d., exactly 9s. 7d. each below the sum laid down by the conditions as a limit, we consider that, taking the very great superiority of the work and the great space afforded, they are very cheap houses.

Mr. Gage puts down his rubble masonry at 8s. per statute perch. He pays 1s. 4d. per barrel for lime one mile off; sand is hauled one mile; stones are quarried and hauled three miles; and mason is paid 2s. 9d., finding his own attendance. Roofing with ton slates Mr. Gage put down at £3 5s. per square. Loft floors, 30s. per square, and other prices in much the same proportion.

We have much pleasure in awarding the provincial gold medal for Ulster for the most approved cottage to the Worshipful Company of Fishmongers.

We also award the Leinster cup for the best cottages built in Ireland in 1875 to the Worshipful Company of Fishmongers [London].

FARM HOUSES AND OFFICES.

The only entries for the Talbot cup were those of Lord Carysfort, who entered three farm-houses and offices. The first we visited consisted of a dwelling-house and some offices, but inasmuch as we were informed that the house had been completed in 1874, and as there was only a partial rebuilding of the farm steading, we do not consider that it came within the conditions laid down. We went carefully over these premises, and are of opinion that the buildings have been efficiently erected. The offices, together with the old ones, were ample, but perhaps not more than sufficient for the farm; we consider the house is large enough for the occupier of a holding of greater extent than forty-three acres. The second and third entries for this cup consisted of houses only, and as there were no offices built, they clearly did not come within the conditions. We cannot but remark that while we consider the internal accommodation afforded by all these houses was almost too good, we think it a pity a little more attention was not paid to external appearance. We feel bound to withhold the cup, on the ground that the entry does not comply with the conditions.

The report is signed Dawson A. Milward, Mathew H. Franks, and James Simpson, and is dated the 20th of June. In respect to the buildings described, we may have something to say hereafter.

LECTURES ON ARCHITECTURE.*

(Concluded from page 190.)

In treating of the temples of the gods we have seen how far the simplicity of manners had become corrupted to the weakening of the moral and religious character of society. Superstitious and debasing rights in the temples led only too naturally to the excitements of a licentious stage and the savage cruelty of the amphitheatre. We have not found traces of a single building devoted to the relief of distress, whether of body or of mind. No hospital ever opened its haven of refuge to the sick poor with a benevolence demanding but one passport for admittance—namely, the existence of suffering and need. For such things, and for the principle which gives rise to them, we look in vain to the hard civilisation of Roman society. The spirit of Christianity had not yet arisen with healing in its wings.†

On the other hand, it must be confessed that we have not found evidences of that wretchedness and extreme poverty which is always with us in our cities, and ever and anon appeals us by its presence in the midst of our wealth and luxury—a skeleton never absent from the feast.

If London were buried to-morrow, what sad contrasts would not the future excavator lay bare? Palaces in one quarter, hovels elsewhere not fit for the dwellings of the beasts that perish. But by the side of such sad revelations he would also come upon hospitals, schools, almshouses, and the like, which would, we may hope, prove to him that there was a principle in the society of our day which was ever battling with evil, and which recognised, however defectively, the claims of sick and suffering humanity.

You will perhaps remember what I said to you in my first lecture on the great subject of providing healthy homes for the masses. Let it be the pride of architects to do their utmost to solve so important and difficult a question. They have already been represented in the battle. If the problem has now to a great extent passed from the hands of philanthropists into those of statesmen and men of business, no small share in that result is due to the untiring advocacy of at least one portion of the architectural press, which has unceasingly urged the claims of the poor, and has shown how sad and dark are those terrible "London Shadows" which exist side by side with the glitter and the wealth of this proud city. I cannot but hope that at some future day there may be no need to apologise for the difference in this respect between our great modern cities of Christendom and the heathen towns of Pompeii and Herculaneum.

We will now devote a few moments to the consideration of some matters of detail in the construction and decoration of the Pompeian houses.

There is not much for us to learn as to the first of these matters, the dimensions are so moderate that there were few mechanical difficulties to be overcome, and no call on the ingenuity of the architect, excepting always as regarded the arrangement of his plan. The walls of the dwellings are, as a rule, badly built with ill-burnt bricks and rubble, and owe much of their stability to the plaster with which they are encased, and which is of good quality. Some of the surfaces, indeed, are so hard and fine that they bear a polish like scagliola, or our hardest cements. In such cases great care has been taken with the last or finishing coat, formed of sand, lime, and pounded marble. This was well rubbed down, and Vitruvius says the colours were laid on while it was wet, so that they became a part of the structure, like the more modern fresco, which was incorporated with the plaster, instead of being a mere surface application like ordinary painting.

When we consider that almost the whole

of the painting discovered at Pompeii was exposed to the action of climatic influences its state of preservation is sufficient to prove that the Romans knew how to ensure that their work should be lasting.

The paintings at Pompeii vary greatly. Some are very beautiful, and display the influences of a Greek taste, if indeed they were not the work of Grecian artists. Others, on the contrary, are of a coarser character, both in design and execution, as might be expected in a small provincial town. You may see on the illustrations in front of me specimens of each of the different types of Pompeian decoration both of ceilings, walls, and floors. The custom most in vogue was to divide the walls into compartments, surmounted by ornamental borders. The divisions thus obtained were painted in brilliant colours, and decorated with a central subject, or sometimes a single figure.

There is often great freedom of drawing and elegance of treatment in these works, and it is clear that they appealed to an instructed love of the arts in the society of the day.

There is also a second style of decoration to be seen in Pompeii. This consists of the application of attenuated architectural forms to wall decoration. We find it in tall columns, so thin as to appear metallic, broken entablature, mouldings in confusion, and a medley of strange perspective and fantastic lines. Vitruvius speaks of this style of decoration only to condemn it in the strongest terms as beneath the dignity of architecture, and altogether uninteresting to the mind. It has been suggested that as the attenuated architectural features were wholly inconsistent with solid stone or marble construction, and as they must have been suggested by existing architectural forms, they were probably taken from a style of building in iron or bronze, the traces of which have now been lost. It seems, however, somewhat improbable that if such a style was in common use remains of it should not have been found. Numerous articles of bronze and other metals have been discovered in Pompeii, and among them candelabra which display the elongated columns common in the decoration to which I am alluding, but I am not aware that the excavations have brought to light any traces of a metallic architecture. Further evidence will therefore be necessary before we may safely conclude that the Romans used iron as a constructive material, as has been done in modern times, though we know that they employed it for ornaments and applied decoration, as in the case of the panels in the dome of the Pantheon, which have now disappeared.

The Roman floors were often very beautiful, as you may see from the specimens preserved in the museums of Europe, and particularly in the Louvre at Paris. They were made of cement in which fragments of marble were set, constituting mosaics. These existed in Pompeii in great variety, and some of the panels were very finely designed and executed. We have lately witnessed among ourselves a revival of this mode of constructing floors, the chief credit of which belongs, I believe, to the authorities at South Kensington.

The doors of the Pompeian houses were of wood. They were consequently destroyed, but their form and character can be distinctly traced. They had no hinges, but revolved on pivots, and must have made much noise when they were opened or shut. The creaking of a door was not objected to, however, as it was considered a proper mode of announcing the approach of a visitor, and thus served the same purpose as the modern bell. Iron chains and bolts were used at night for securing the doors.

It is known that there was glass in Pompeii, not only for domestic utensils, but also for use in windows. It was, however, rarely used, in consequence probably of its great cost. Some of the rooms in the public baths had glazed windows, and the glass was found in fragments when the building was first excavated. It is of good quality, and

ground on one side to prevent persons outside from looking into the baths.

In the museum at Naples there are great quantities of glass bottles and other vessels of the same material, all of which were found at Pompeii, and we may feel confident that so clever a people as the Romans were could not have employed glass for such purposes without perceiving its advantages for windows when they wished to admit light while excluding the external air. Indeed, during the later times of the Roman Empire, there is reason to believe that the walls of the great public baths were lined with glass as well as marble, and even decorated with mirrors. In connection with this subject it may be here stated that in addition to glass vessels, almost every conceivable household utensil has been found at Pompeii, and among them portable fireplaces, braziers, and contrivances for heating water.

In the houses generally there are no fireplaces or other permanent arrangements for warming, and it is difficult for us to understand how the people can have lived in health or comfort in these slight dwellings, with their courts uncovered and exposed to the vicissitudes of the climate, although the climate of the south of Italy. The latter is, of course, very different from our own; but in winter time the modern Neapolitan is glad to welcome the comforts of fire and warmth, which in northern countries are more constant necessities. Moreover, the climate is far from unvarying; there is sometimes a great amount of cold, and I have myself seen a fog at Naples which would have stood comparison with one on the banks of the Thames.

It is possible that the Romans were of a hardier and more enduring constitution than their descendants; but though this may, perhaps, have been the case in the Spartan-like days of the Republic, it can scarcely be contended for in respect of the later time, of which we have been treating.

From the general absence of warming arrangements in the houses, and the paucity of the portable contrivances that have been discovered, it is evident that, as a general rule, the Pompeian people lived without these comforts. This, moreover, was not because they knew nothing of them, for in their baths they had in actual practice an admirable method of heating rooms, which has often been thought worthy of imitation. Not only the floors but the walls, and sometimes the roofs, were built hollow, and riddled with flues, into which hot air was conducted. By this means the whole of the apartment to be heated was surrounded by an envelope of warm air, which kept the inner surface of the room of a constant and uniform heat radiating in all directions. You will have noticed the small size of the rooms in the houses, and this may be connected with the fact of absence of artificial methods of heating them. The bedrooms in particular are very contracted, and without windows. The only possible access for fresh air or egress for vitiated air was the door, which opened into the atrium or the peristyle. The doorways were usually of good height, and may probably have been fitted with doors divided horizontally, after the manner of our stable doors in England. With these doors partly shut, and with a well-covered couch, it is possible that the sleeper might bid defiance to the cold, and it may be remembered that no less an authority than Miss Nightingale has declared that, except in cases of particular diseases, patients in an hospital may sleep with impunity in a room with windows open in the coldest weather, provided that their beds are sufficiently covered.

It is possible, moreover, that temporary means of covering the open *atria* may have been resorted to. The *celarium* was the well known contrivance for this purpose in the theatres, and there would be no difficulty in applying the same principle to the more easily managed dimensions of private houses. By this expedient, or even by movable shutters, the short-lived rigours of a southern winter may have been conquered or evaded.

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* Third lecture. By Professor E. M. Barry. Delivered at the Royal Academy, London, on 9th of March. See ante.
† Although Pompeii was not destroyed until the year 79 of the Christian era, no traces of Christian influences have been discovered among the ruins.

In Malta, whose climate is not very different from that of Pompeii, such expedients are commonly used, and may probably have descended, with other traditions, from Classical times.

Another defect to our eyes in the arrangement of these Roman houses is the utter want of privacy which they involve, according to our understanding of the term. Small rooms all round a central semi-public hall, or court, with no means of admitting light save an open door, or a borrowed light over it, are certainly very far from our idea of domestic comfort. On entering one of these dwellings, such as, for example, the house of Pansa, the eye ranged freely over almost the whole of the building. Curtains were probably employed in winter, and when warmth or privacy was desired. At other times, the interior was open to view throughout, as shown in the drawing I have placed before you, and the effect of the vista, with its intermediate screens of columns, must have been very pleasing.

The Romans led far more of a public life than we do, and practised more uniformity and simplicity in their domestic customs. There was, therefore, a more constant surveillance of their private life by the public opinion of their day than modern feeling would tolerate. In the primitive days, any excess of luxury by a private person, however eminent, was repressed by opinion, and even by law; and from the manner in which the public were allowed access to the interior of private residences, no one could calculate on his habits escaping notice.

The men, at any rate, accepted this state of things, and contented themselves with securing a greater amount of privacy for their wives and families. The women's apartments in a wing, or *gynæceitis*, were kept well apart from the rest of the house. In connection with them were the kitchen and offices, often arranged round a court, after the usual plan. Here the ladies of the family might reside in something of the seclusion of an Eastern harem.

Having secured a quiet retreat for the female members of his family, the Roman was contented to live very much in public, and perhaps it is not always borne in mind that our present requirements of perfect domestic privacy are of very modern date. They were unknown in Mediæval times, and in the palaces of Italy and France the rooms often communicate with and through each other. The same idea of arrangement obtains in old English mansions, and it is not many years since a modern architect was employed to add separate passages of communication to the palatial mansion of Burghleigh, so as to prevent the necessity of passing through one room to reach another.

With us the love of privacy may, perhaps, be carried to an extreme, so as to degenerate into selfishness and disregard of the public good. Public life is now more and more confined to a special class, and the rest live to a greater degree for themselves than was the case with the Romans. Excessive consideration for the luxuries of domestic life easily leads to forgetfulness of the demands of public duty or patriotism. What might not this London of ours become if some of the vast stores of public wealth were opened for its adornment or improvement which are daily expended in evanescent show and the costly baubles of fashion?

In considering Roman times and habits, we may pride ourselves, and pride ourselves justly, on improvements wrought by the influences of a higher sense of moral responsibility. May it not be possible, however, that something has been lost, and that our private virtues would lose nothing if more constantly associated with that care for the State which the public life of the Greeks and Romans was so well calculated to foster and develope?

To build a bridge, to give water to a city, to erect a great public work, might well add lustre to the proudest title, and secure for an honoured name the gratitude of millions yet unborn.

In their extended empire, in their love of justice, and in their imperial qualities, the Romans were not, as we think, without resemblance to our own countrymen. At first, a simple, hardy, and rude nation of soldiers, they became first the conquerors of the world, and then enfeebled by the consequences of their own victories.

In their later times, a corruption of public and private virtue led to stagnation, decline, and fall. Power was used for unbridled excesses, and the very sports and amusements of the people were stained, as we have seen, by cruelty and bloodshed.

In these respects history is an open book for us. The softness of modern manners, to say nothing of higher influences, will never allow a recurrence to the grosser forms of Roman decadence. The danger is in a different direction, and may well become manifest when care for public duties may be obscured by the pursuit of private gain, and each considers it the duty of another to support and defend the state.

It is impossible to wander through the deserted streets of Pompeii without some such thoughts as these on the contrast between the present and the past. We can there picture to ourselves a life unlike our own indeed, but still one in which all humanity can sympathise. We can study the habits of the people in their streets and temples; their law-courts, baths, and theatres; their shops and daily business; their games and amusements. To the architect the ruins around him will teach many a lesson, clear up many a mystery. By the general student an even more extended interest may be felt, for he knows that the worthiest object of study is Man, and will ever remember the words of the Preacher—"The thing that hath been, it is that which shall be; and that which is done is that which shall be done; and there is no new thing under the sun."

REGISTRATION AND CLASSIFICATION OF HOUSES.*

THE subject which forms the title of this short paper is one to which the society I have the honour to represent has recently been giving some attention. Being a subject which had at least the merit of novelty, and believing it would be found not unworthy of your consideration, we suggested it as a suitable one for discussion in response to the invitation of the hon. secretaries of the Conference. I am not the author of the scheme. I have simply undertaken to bring the subject before this meeting, and I shall do so as concisely as I can.

Mr. John Cowan, of Glasgow, was the first to suggest the idea, at least in Scotland. His paper on the subject, which was read before our society, has been reported in some of the professional papers, but I trust you will bear with me in repeating—as I must necessarily do—the gist of his paper, so far as it dealt with the details of the scheme. The publication of the paper will have, I hope, directed the attention of many gentlemen present to the subject, and my bringing it before this Conference will give an opportunity for its being discussed and having its merits and demerits brought to light in a way which no merely local discussion could do, and perhaps initiate some general movement for giving it practical effect should it bear the test of criticism and meet with any measure of approval from the collective wisdom and experience of such an assembly as this.

What, then, is this new scheme which, as a practical idea, has just been launched by one of our Glasgow builders? For what reasons is the adoption of such a scheme either necessary or desirable? And in what way does it interest us as architects?

I shall apply myself to answer these three questions as fully as the limited time at my disposal will admit of.

First, then, it is a proposal to apply to

house property a system analogous to that of "Lloyd's Register," as applied to shipping.

The machinery necessary for the scheme would be (1) a committee or board, consisting of say representatives from the architectural and legal professions, the mercantile community, and the building trades; and (2) a staff of thoroughly trained inspectors or surveyors. For the guidance of these officials a standard specification or specifications and set of instructions would be prepared which might be so general in their terms as to apply over all the United Kingdom. To these could be added such clauses as would be necessary to meet the different modes of construction peculiar to certain localities.

Buildings which were to be registered would require to conform to this specification, not, perhaps, to the very letter—because it would be impossible to do so in many cases—but to the spirit; that is, they would have to be constructed in a way which would come up to the maximum of excellence required by the standard specification.

It would be the duty of the surveyors to visit the building from time to time during its progress, and in accordance with their report at completion the committee would register it in class A, B, or C, as the case might be.

The register would contain such information as the following:—Situation and kind of building; date of erection, name of architect and builder; character of foundations; system of drainage; thickness of walls; scantlings of wood and iron joists and beams; details of plumber work, gas-pipes, and bell-hanging; kind of fire-proofing, if any—in short, a complete record of the kind and quality of all materials, and the mode of construction employed in a particular building, dealing specially with such details of construction as are hidden by the very completion of the building.

The register would be available for reference to all who paid the fee which would be charged. Fees would also be charged for each registration, and the fees derived from these two sources would form the fund from which the secretary of the committee and the surveyors would be paid. These surveyors should be a superior class of men, and be required to pass an examination either by the local Institute or the Royal Institute. The salaries of these officials ought to be liberal, and they should be strictly prohibited from doing any other kind of work.

It is not, of course, meant that the registration would be compulsory, but its advocates are sanguine enough to hope that the benefits would be such as would induce those interested in house property to conform to the standard specifications and seek for registration.

It is thought that three such committees and staffs of surveyors would be sufficient for the work in Scotland—say, one at Aberdeen, one at Edinburgh, and one at Glasgow. These officials would overtake the work of the smaller towns in the district of which their head-quarters were the centre. The same system, with, of course, a proportionately larger number of centres, might be applied to England.

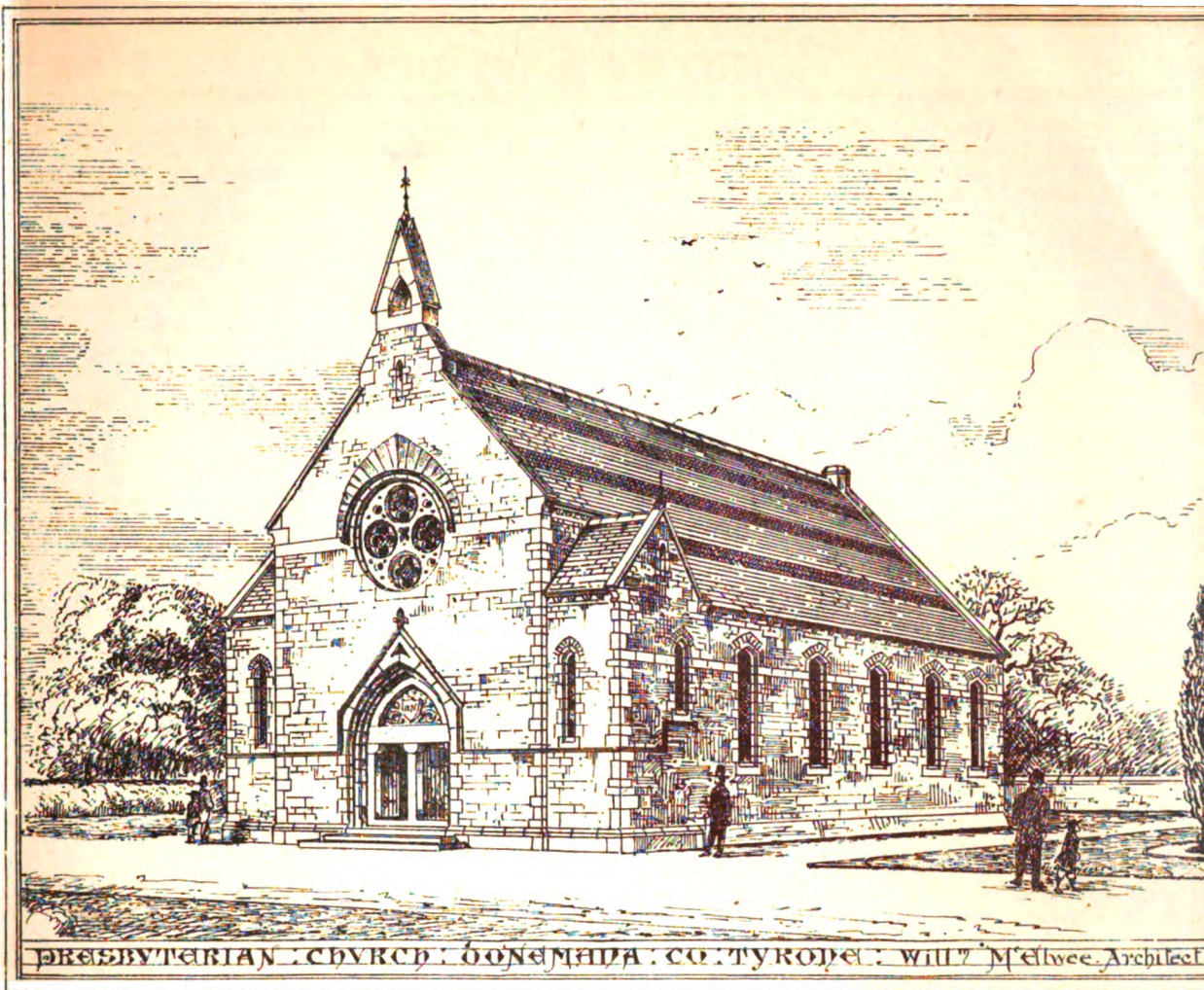
Such, then, is a brief outline of the scheme as set forth in Mr. Cowan's paper, and which we in Glasgow have been discussing.

Crude and unworkable it may be in its present form, but if the idea is one worth pursuing a proper and efficient system for carrying it out would no doubt be devised.

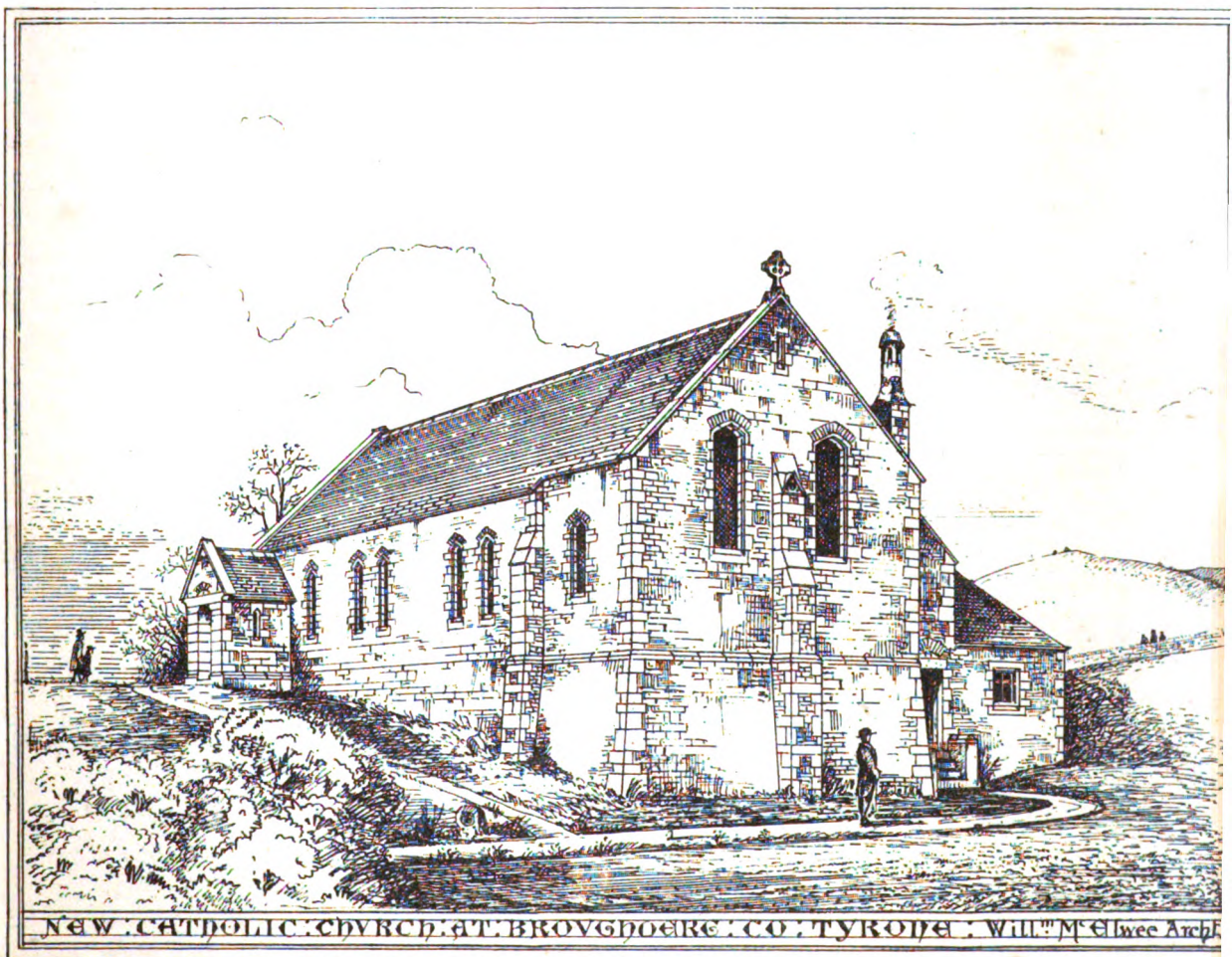
I will now deal with the second question—viz., "For what reasons is the adoption of such a scheme either necessary or desirable?" and I think I shall be able in a sentence or two to show that it is both.

I shall be within the mark when I say that nine-tenths of all the domestic and commercial buildings in Glasgow and other large centres of industry in Scotland are built by the investment of the capital of those who personally know nothing of them as examples of construction, but look upon them simply as a safe investment for their capital. The value of such property, in Glasgow alone,

* By Mr. James Sellars, jun. Read at recent Conference.



PRESBYTERIAN CHURCH : DONAGHADEE : CO. TYRONE : WILL^M McElwee Architect



NEW CATHOLIC CHURCH AT BROUGHMORE : CO. TYRONE : WILL^M McElwee Archt

THE LIBRARY
OF THE
UNIVERSITY OF TORONTO

must be reckoned by millions of pounds sterling.

In most large towns a considerable proportion of such property is erected without the plans or superintendence of the trained architect. In Glasgow, buildings innocent of an architect might be numbered by the street, and it is all but certain that they are of a kind which would not be classed A 1 on the proposed register. These houses are, as a rule, built to sell, and at present they do sell in most cases at as high a price as the well planned and constructed building. There is thus no encouragement for the conscientious builder to get his house well planned and constructed. Under this system it would become the interest of the builder to do so, otherwise he would find no market for his wares, as the purchaser would certainly be guided by the register in making his investment.

If, then, it is admitted that "jerry" building exists to a large extent, and I think the fact will hardly be denied—and that this system of registration would help to stamp it out, encourage good planning, and tend to raise the standard of excellence in construction, I submit that the necessity and desirability of such a system must follow.

Now, as to the third part of my subject—"In what way does it interest us as architects?" This is a question which such a meeting as this is fairly entitled to ask, and I hope I shall be able to answer it in a satisfactory way, otherwise I fear I shall have committed a grave error in presuming to occupy your valuable time.

If it is assumed that the result of the scheme would necessarily be an improved class of building, surely it is a system in which we whom the public hold responsible for healthy and safe houses to live in, and premises in which to carry on their business, must take the deepest interest, and if it is a scheme which it is desirable to carry out our profession is bound to take an interest in it, and assist in putting it in working order, as it would be impossible to arrange its details without our co-operation.

But, it may be asked, are we not, by setting up a standard specification, and detailing the best mode of construction, simply helping every man to become his own architect? To such a question I would answer, No. For, although we say that walls of such and such a height are to be of a certain thickness, that joists over a given span are to be of a certain scantling, and otherwise detail the various particulars of construction, it is only the trained architect who can bring the parts together and construct with economy and skill.

This is a fact which the capitalist will very soon recognise, and he will see it to be to his advantage to employ the qualified practitioner so as to insure his building being constructed with economy, and in such a way as would entitle it to be registered in the first class.

May I therefore assume that the tendency would be in the direction of employing the trained architect to the exclusion of the poachers on our preserves who have too frequently large commissions entrusted to their unskilful hands.

I think I have said enough to show that on public grounds, and even on professional grounds, the scheme is deserving of our support.

Before concluding there are one or two other points I should like to refer to. There is no doubt that such a scheme would be an immense boon to the legal profession and other bodies having money to invest in public buildings, and as they are the "public" from which many of our clients come, they are entitled to our best consideration. This register would afford them a reliable means of getting at the character of the property to be invested in. But would not this affect the vested interests of the licensed valuator? Would he not, like Othello, find his "occupation gone?" On the contrary, he too would have something reliable to work from, and his skill would be reserved for the consideration

of the locality of the building, its depreciation from age, the value of the ground, and the many local circumstances which affect the value of property.

Another point which is of some importance may be mentioned. Suppose the case of the purchaser of the "jerry" house finding after he has entered into possession that he has no privacy in his rooms, as sounds can be heard all over house; that the drains get choked as they lead to nowhere in particular; that the plumber work is all wrong, or that doors will not shut, as the house has sunk half a foot on one side. Such cases are by no means uncommon, and they tend to lower the character of our profession in public opinion, as the blame is generally laid at our door by the sufferers, who are probably unaware of the fact that their houses are blameless of an architect. Again, it may be asked, do not the Building Acts secure all that the scheme is expected to accomplish? The answer must be, certainly not. At least they have not done so hitherto. It is true the Building Act requires that walls of a particular height shall be of a certain thickness, and that joists of given span shall be of specified strength; but it does not demand that the wall shall be a well-built wall, or that the timbers shall be of first-class quality. The Building Act may be satisfied with a minimum of excellence, but this system demands the maximum of excellence.

Had time permitted, I might go on multiplying arguments in support of the idea, but if I have said enough to explain the intention of the proposal, and put you in possession of material for discussion, my mission is accomplished.

I may say, in conclusion, the idea has been warmly received by our society, and by several of the legal profession in Glasgow to whom it has been explained.

A committee, composed of representatives of the various bodies whom it is thought might be represented in the permanent board, has been appointed to consider details and devise some means of giving practical effect to the scheme.

This is only a local movement; however, should it appear to this meeting, composed of representatives from all parts of the country, to be desirable and practicable, such a movement would be much more likely to have a successful issue if it were taken up by the whole of the profession under the auspices of the Royal Institute.

That the scheme is practicable with houses will, I am sanguine enough to hope, be admitted. The scheme on which it is founded has worked well in the case of ships, where the result has been to raise the standard of excellence of both design and construction.

Is it too much to hope for a like result from the "Registration and Classification of Houses?"

THE ROYAL HISTORICAL AND ARCHEOLOGICAL ASSOCIATION OF IRELAND.

A MEETING of the above association was held on Wednesday, the 5th inst., in the Museum, Butler House, Kilkenny.

The Rev. CHARLES VIGNOLES occupied the chair.

The following were unanimously elected as members:—Thomas Kelly, B.L.; J. C. Deady, James Cassidy, Anthony Scott, Rev. Thomas Hare, A.M.; T. C. S. Torney, J. Ernest Grubb, and William H. Bolger, J.P.

The Rev. James Graves (hon. sec.) exhibited a number of ancient documents, amongst them a copy of a patent roll or charter relating to Jerpoint, and which was granted by King Edward III. on the 10th November, 1360. The original document, which is in Latin, is at present lodged in the Public Record office, London.

The rev. gentleman also laid before the meeting a genealogical sketch of the family of Geoffrey Keatinge, priest and historian, which was forwarded by Mrs. M. Philips, Glenview, Belturbet. The document was pronounced a very interesting one.

The Rev. James Graves reported that a copy of an original "contest" between an Irish and a Welsh poet had been forwarded to him by a friend. It was entitled (according to the English translation) "The contention of John MacWalter Welsh with long-nosed James Power," and the "verses" were written alternately in the ancient Irish and Welsh languages. The subject treated of was apparently a pastoral one, and presented many features of poetic beauty. Some of the "verses" were read by the hon. sec., and received with evident pleasure by the meeting.

Mr. Phillips exhibited a gold brooch of small size, which bore an inscription, apparently in Norman-French.

The Rev. James Graves also exhibited an ancient deed connected with the family of the Shortalls of Ballylarkan, and which bore date of the year 1602.

Several other interesting ancient documents and specimens of rare antiquity were also exhibited at the meeting.

The Rev. James Graves said that he had been favoured with a copy of Mr. John Hogan's new work, "St. Ciaran of Ossory," which had been forwarded by the respected author for the use of the association. He was sure the association would pass a unanimous vote of thanks to Mr. Hogan.

Several other members spoke highly of Mr. Hogan's work, although some of the speakers could not agree with every statement it contained.

After the transaction of some formal business the meeting adjourned till the first Wednesday in October.

SKETCH OF THE INSTITUTE OF BRITISH ARCHITECTS.*

(Continued from page 197.)

For the first year or two, as may be supposed, the funds of the Institute did not permit any regular and official publication of the sessional papers, though some exceptions occurred, and the council always claimed the copyright of such papers until a certain interval—twelve or eighteen months—had elapsed after the date of reading. Nor were there for some time any external facilities for giving publicity to these communications. When the Institute was first established I believe no strictly professional journal, in the present sense of the word, was in existence.

In 1836 the council reported to the general body of members as to the expediency of procuring a charter of incorporation for the Institute. The expense was estimated at £300, and Mr. W. L. Donaldson, then honorary solicitor, undertook to prepare the draft. A resolution was passed at a general meeting adopting this recommendation, and a subscription was at once opened towards defraying the cost of the charter. By the following year the charter, obtained through the influence of Earl de Grey, had been printed, with the bye-laws attached to it, and circulated among the members. This step at once gave stability to the Institute, and placed it on the same footing as other incorporated societies. In the same year the Institute moved from its old quarters in Covent Garden to the more aristocratic neighbourhood of Grosvenor-street, where, at No. 16, it occupied rooms for many years afterwards. By this time Mr. Charles Fowler had succeeded Mr. Goldcutt in the position of joint secretary with Mr. Donaldson, and the two names were long and honourably associated. In their report to the annual meeting in 1837 the council naturally congratulated the general body of members on their improved position, one of the first fruits of which had been an exchange of transactions with the Royal Societies of London and Edinburgh, the Royal Society of Literature, the Royal Geographical Society, and the Institution of Civil Engineers. The Society of Antiquaries and the trustees of the British Museum con-

* By Mr. C. L. Eastlake, Secretary. Read at recent Conference.

tributed some valuable works to the library. Meanwhile communications with foreign societies had been extended by the election of new honorary and corresponding members of the highest reputation on the Continent.

In 1838 a proposition was made by the Architectural Society for the incorporation of that body with the Institute. Committees were appointed on either side, and after several meetings agreed upon a scheme of union which it was hoped would give mutual satisfaction. But, unfortunately, though it met with approval from the Institute, it was rejected by the Architectural Society. The result was that eighteen members of that body withdrew, and, of them, thirteen were at once elected members of the Institute. In reviewing this and other attempts to secure for the profession of architecture that unanimity of practice and principle which would naturally result in the establishment of one representative guild, and one only, it is almost superfluous to point out the obvious advantages of such a scheme, regarded theoretically, and the practical difficulties which, if we may judge from experience, invariably arise in the course of its realisation. It is true that in the legal and medical professions, for instance, the absolute necessity of united corporations has long been recognised. But it must be remembered that the conditions under which those corporations have been formed are widely different from any which we can hope to see founded in the present era of architectural practice. The absence of a legally authorised professional diploma as a condition of membership will in itself account for the existence of a large body of outsiders who from conviction or temperament are indifferent to what we are accustomed to call *esprit de corps*, and while this independence of action is maintained by individuals, we cannot be surprised if it tends to the formation of distinct societies. But apart from this cause, it must be remembered that artistic aspirations form, or are at least supposed to form, an important element in our professional status. Now it is notorious that art societies multiply more rapidly than any others, and for my own part I believe it is only because architecture is a business as well as an art that we have not a dozen institutes at the present time—so diverse are the aims, and so opposed are the principles which may be recognised in our profession from an æsthetic point of view.

One of the first important steps taken by our society, at the time to which I am now referring, was the appointment of a committee to consider the question of public competitions—a subject of peculiar interest then, as indeed it has frequently become since. The committee issued their report in 1839, and it obtained a wide circulation. In glancing at this official record of opinion on a theme which has now grown threadbare by discussion, one is struck by the similarity between the arguments, grievances, and remedial suggestions enumerated by the last generation, and those with which we are familiar in the present day. The advantages of the system are few but definite. It encourages emulation which, within limits, is of course a very desirable quality in any artist. It offers an opportunity for rising genius which might otherwise languish unencouraged. It opens a range of choice in respect of taste and technical skill which is of singular advantage to a public too often hopelessly ignorant of our art. On the other side, as we all know, the system presents a melancholy picture of professional jealousy, disappointed hopes, underhand jobbery, and sometimes, though let us trust less frequently now than formerly, instances of cruel and deliberate injustice.

In saying that there has been no departure from the scheme originally proposed by the founders of this Institute, I ought perhaps to note one exception. The periodical delivery of lectures on scientific subjects connected with the study of architecture, *e.g.*, acoustics, geology, and the use of iron, formed part of the early programme, and for a time proved attractive, but at length

the attendance of members fell off, and the council did not feel justified in incurring the additional expense entailed, for the lecturers were paid for their services. Meanwhile the Institute prospered in more than one sense. The library was continually enriched by donations from foreign members. Many of the nobility became honorary fellows (I only wish the list was longer at the present time), and the Queen graciously allowed her name to be announced as patroness. It is a curious evidence of the urgent need which had been felt for the establishment of the Institute and the guarantee which it affords for the integrity of professional practice, that the council, in their report for 1840, took occasion to disclaim, on behalf of all respectable architects, any share in that pernicious system which had once permitted their accepting a commission from tradesmen in addition to that received from their clients. The bye-law which prohibits, under pain of expulsion, any member from receiving such a gratuity was then, as it still is in existence, and afforded material for the first if not the best answer to that invidious question which has sometimes been asked—What is the use of the Institute? In 1841, the appointment of Lord De Grey to the office of Lord Lieutenant of Ireland deprived the Institute for awhile of the advantage of his personal attention, but by this time Mr. Donaldson, who had retired from the position of honorary secretary, though he still conducted (I need scarcely say how zealously) the foreign correspondence, was elected a vice-president, together with Mr. Charles Barry and Mr. Philip Hardwick, both Royal Academicians, and both gentlemen who occupied the foremost rank in our profession. With such deputies as these it will be obvious that the president's absence was less felt, and indeed the *ecclat*, which in the eyes of the outside world attached to his social rank, was probably more than compensated for within the walls of the Institute by the fact that the chair was now filled in turn by three architects of undoubted popularity and attainments. The Institute possessed an additional advantage in the services of Messrs. Charles Fowler and George Bailey as honorary secretaries.

Among the papers read at this period was one which deserves especial mention. I mean the valuable essay on "Vaulting in the Middle Ages," contributed by Professor Willis, and at the time of its publication one of the most learned and exhaustive treatises which had appeared on the subject. The council paid it a tribute of respect which no other of our papers has received before or since. An extraordinary number of copies were printed, and the sum of £400 was devoted to meet the expense of the volume for that session. It is needless to add that that was not paid out of income, and considering the state of the Institute finances, it may be regarded as a somewhat bold investment. About this time a proposal was made to secure more convenient quarters for the Institute than those in Grosvenor-street, but it came to nothing, and several years elapsed before premises were secured elsewhere.

In the year 1843 the question of competitions was again brought before the Institute on the motion of Professor Hosking, who seems to have condemned the whole system except in cases where every competitor was paid for his work. The subject was discussed at a general meeting, but with no practical result beyond the ventilation of opinions, which I suppose are pretty much the same as have always been formed on the matter. That there have been, and unfortunately still are, conditions attached to public competitions, which are disgraceful to those who offer them, and still more disgraceful, from a professional point of view, to those by whom they are accepted, is an abstract proposition which no one in this room would be likely to deny. But unfortunately the only remedy lies in a measure that would probably be a worse evil than the one we wish to remove. It would, of course, be possible to shape the conditions of mem-

bership of this Institute in such a form that no one connected with it could take part in objectionable competitions. But it may be doubted whether it is not preferable that such competitions should exist than that a body of professional men should adopt rules based on principles analogous to those of a trades' union.

In 1844, the trustees of the British Museum, who had appointed Mr. Hawkins to accompany Mr. (afterwards Sir Charles) Fellows on an expedition to Asia Minor, applied to the council of the Institute for suggestions, which might guide that gentleman in his antiquarian researches. A paper of instructions was accordingly drawn up, indicating the points most worthy of the travellers' attention during their tour. It is only a few years since the same advice was sought and rendered in reference to the Palestine exploration scheme, and it is gratifying to note these early and recent instances in which the Institute has helped to promote a national object.

The aspect of modern London up to this time, had been one little worthy of this rich and ancient capital. But a marked attempt was at length made to improve its street architecture, and the club houses which rose one after another in Pall Mall represented, in spite of certain defects, an effort in the right direction. That the standard of metropolitan splendour was not over ambitious, may be gathered from the fact that in 1845, the council, while congratulating the Institute on the completion of Trafalgar-square, "with its terraces, flight of steps, fountains, basins and triumphal column," expressed their opinion that "a feeling had arisen in the public for rich and effective combinations of objects of a monumental character." The Thames embankment was a scheme still in *nubibus*, but the subject had been brought under the notice of a Parliamentary Commission in connection with other plans for metropolitan improvement.

In 1846, at the instance of Lord de Grey, her Majesty was graciously pleased to bestow on this Institute a lasting mark of her favour, by founding the Royal Gold Medal, the annual award of which has since become one of the most interesting events of our official year. It was originally intended as a student's prize, to be offered for the best designs in Grecian, Roman or Italian architecture, and the council proposed to supplement it with the sum of £50, on certain conditions of Continental study—such as are at present attached to the Soane Medalion. But the fates had ordained another destination for the royal medal. Although the subject fixed on for the prize was one calculated to fire the enthusiasm of competitors—being no less than a design for a new institute, the drawings submitted did not reach that standard of merit which the council deemed necessary to justify the award, and no award was made. But out of this apparent evil a decided advantage resulted. A consultation took place, and, with her Majesty's consent, that which had been founded as a student's prize, became the most honourable distinction to which our profession can aspire—a distinction which is coveted by foreigners as well as by Englishmen, and which has been conferred—I need not tell you how deservedly—on the eminent and gifted French architect whom we have the pleasure of welcoming this evening.

About this time I am glad to find that the Institute took the first steps towards the organization a benevolent scheme, which, though it has since passed into other management, was first devised by a committee of our own body, and is still supported by a large number, I wish I could say by *all*, of our own members. That excellent Institution, the Architects' Benevolent Society, the very name of which proclaims its object, and should suffice to enlist our sympathies, is an offspring of which the parent Institute may well be proud. Ably managed and judiciously administered, this charity has for many years past done much good and silent work,

and if to mention it be a digression from the immediate subject of my paper, I hope I shall be excused by making it an appeal for your extended, continuous and liberal support.

While referring to the prolific character of the Institute, I must not forget another bantling which may claim its paternity, and has received its fostering care—I mean the Architectural Publication Society, which after experiencing many vicissitudes is now in a fair way of arriving at maturity. "Of making many books," says the Preacher, "there is no end." In this case there is only one book, but a big one, in many volumes, and I make no doubt, that when Mr. Wyatt Papworth writes "*Laud Deo*" on the last sheet of copy for the "Dictionary of Architecture," he will have completed a work for which posterity, as well as his contemporaries, will be grateful.

(To be continued).

BUILDING REGULATIONS FOR THE UNITED KINGDOM.

ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND.

A SPECIAL Council Meeting of the Institute has been summoned for Monday evening next, to consider a communication from the Royal Institute of British Architects on the subject of the proposed "Building Regulations for the United Kingdom." It is the general opinion here that a special act for this city is much required. The "Jerry" builders are in full swing, and will not stop their operations until prevented by the strong arm of the law.

PRESBYTERIAN CHURCH, DONEMANA, TYRONE.

DONEMANA, where this church (see illustration) is being built, is a pleasantly situated village rather more than midway from Londonderry to Strabane, and is the centre of a very fine district. Some weeks since foundation stone was laid, and works are now being carried out under contract. Local limestone is used for walls, with Dungiven freestone dressings, &c., and the roofs will be covered with red and blue Bangor slates. The external dimensions are, 82 ft. by 44 ft., having in addition session and minister's rooms at east end. Principal entrance is in west gable by a deeply-recessed double doorway opening on porch 26 ft. by 10 ft., with stairs in either side of same to gallery at west end of church and over porch. Open pews provide accommodation for 650 persons on ground floor and gallery. Choir seats and platform pulpit are at east end. The roof is partly open, having ceiling about half height 32 ft. from floor. All the woodwork throughout is to be stained and varnished, and the lights are to be filled in with metal sashes and tinted glass.

The church is from designs by Mr. William McElwee, architect, of Derry, and is now being built by Mr. Robert Colhoun, builder, also of Derry, the estimated cost being £1850.

CATHOLIC CHURCH, BROUGHDERG, TYRONE.

THIS church (see illustration) is being built in a mountain district of the extensive parish of Lower Badmety, county Tyrone. There being two churches at present in parish, the object was to provide accommodation for outlying parishioners, at a moderate outlay. The plan of church is a nave, 65 ft. x 25 ft. internally, with open roof, chancel at east end, 23 ft. x 12 ft., having sacristy, &c., to north side of same. The church has been

designed in a plain style, suitable for the situation, and is now being carried out by the respected pastor, Rev. P. McGeown, P.P., by day's work. Mr. William McElwee, of Londonderry, being architect.

EMPLOYERS AND WORKMEN—ENGLAND AND SCOTLAND.

TRADE disputes in the building and other branches are still cropping up in the sister kingdom, and others of some weeks' standing are still unsettled.

At Glasgow, at a meeting of operative joiners held on the 28th ult., the chairman stated that the deputation appointed to wait upon the men working on the old terms had not been so successful as could have been wished. The men on strike were determined to remain out until their demands were conceded, and it was reported that an extra allowance would be made to the non-society men during the fair holidays. The strike has now lasted about eight weeks, but several of the employers have in the meantime acceded to the demands of their workmen.

At Southport, the joiners have made an offer to their employers to resume work at 8½d. per hour, and 9d. from the first of the next month. The employers refuse, and are filling their shops with what men they can procure from other towns.

At Rugby, the carpenters and joiners have asked an advance of 1d. per hour, the present wages being 7d. The employers refuse, as the men had an advance recently from 6½d. to 7d. The executive of the carpenters' and joiners' society have agreed to support the men in their present demands.

At Sheffield, the masons, according to a notice given some months ago, ask an increase of 2s. per week. The employers offer an advance equal to a rise of 1s. per week, which the men refuse. At a meeting of the Master Builders' Association a resolution in favour of arbitration was adopted. This has been considered at a subsequent meeting of the operative masons, and after consideration the men have passed the following resolution:—"That we, the masons of Sheffield, adhere to our original notice of 8½d. per hour, and consider the master builders' proposition to refer the wage question to arbitration so ill-timed that we cannot, at the last moment our notice is about to expire, accept it."

At Brighouse, the painters demanded an increase of ½d. per hour. With the exception of one firm, all the employers have agreed to give it. A strike took place in the single instance, the firm in question not consenting to give more than ½d. per hour advance.

At Willenhall, on the 3rd inst., 400 iron and lock and key smiths struck work. They demanded an advance of 10 per cent. on their wages, in addition to 10 per cent. advanced to them last autumn. The employers refuse the men's demands, for the following reasons:—1. That the general trade of the country is now in a very depressed state, and prices of almost every article of manufacture have a downward tendency. 2. That the demand for locks has fallen off for the last three months. 3. That the amount of foreign competition is greatly on the increase. It is stated that large quantities of door locks are now being imported into England and the Colonies from America, at prices very much below those made in the sister kingdom.

At Ayr, the strike of operative joiners that had existed upwards of a month has terminated. The men demanded an advance from 7½ to 8d. per hour, 1s. advance on the rate extra while working in the country, and the masters to sign the bye-laws. On the 22nd ult. the men subscribed to the following terms—7½d. per hour, and the masters to sign the bye-laws.

At Carnarvon, a strike has taken place, on the 30th ult., at the Menai Mael Tryfan Slate Quarry through the manager refusing to grant the men the Saturday half-holiday.

At Worcester, a lecture was delivered on "Trade Unions, and their Influence on the

Relations Between Capital and Labour," by Mr. J. D. Prior, the secretary of the Amalgamated Society of Carpenters and Joiners. On the conclusion of the lecture the following resolution was agreed to:—"That this meeting, recognising the great benefits to be derived from trade unions when wisely conducted, earnestly recommends all workmen to avail themselves of the advantages which these societies confer upon their members in the time of need."

STATUES.

It is intended to erect a statue in Paisley to the memory of the Scotch poet Tannahill.

Mr. James Cahill, sculptor, of Great Brunswick-street, has modelled a fine bust of Isaac Butt, Esq., Q.C. The artist has faithfully transferred the features of the living Irish orator to the inanimate clay. We hope he has been favored with an order from the learned gentleman's admirers to execute the work in marble.

The French papers state that the operatives at the Creuzot works have resolved to raise by subscription a statue to their late master M. Schneider. M. Chapus, whose bust of Alexander Dumas was remarked at the Salon this year, has been charged with the work.

A deputation from the Communal Council of Louvain has waited upon the King of the Belgians in the Palace of Brussels to invite his Majesty to the inauguration of the statue of the late M. Van de Weyer in their town, in September, an invitation which the king was pleased to accept.

The London correspondent of the *Manchester Guardian* understands that Sir Albert Sassoon, who intends to present an equestrian statue of the Prince of Wales to Bombay, has transferred the commission for this work to Mr. Boehm, in consequence of the death of Mr. Noble, to whom it was originally entrusted. The statue will cost £5,000.

The statue of King Alfred the Great is being executed by Count Gleichen. It will be erected in the town of Wantage, the birth-place of the king. It will be in marble, and the cost will be over 2,000 guineas.

The Prince Consort Memorial, Edinburgh, will be ready for inauguration next month. Mr. Steell is the sculptor. In the modelling of the subordinate group of the equestrian statue Mr. Steell has been assisted by Messrs. Brodie, Clark, Stanton, and D. W. Stevenson.

Several statues in white marble are to be placed in the crypt of the tomb of the Orleans family at Dreux. The first has been ordered by the Count de Paris, the three others by the Duke de Montpensier. All these are the work of the sculptor Millet.

Concerning the Byron Memorial, the *Illustrated London News* says:—"The committee of the Byron Memorial Fund at their last meeting arrived, after a discussion which has been qualified as 'animated,' at the decision that the commemorative statue of the poet should be of bronze, that it should be of colossal proportions, and that it should be set up in the Green Park, over against the house formerly numbered 13 Piccadilly, in which Byron wrote the 'Siege of Corinth.' A sum of not much less than £3,000 is already available for the remuneration of the sculptor and to defray the expenses of casting and erecting the statue. The competition for the artistic production of the effigy is to be open to all the world; and the sketch models sent in will be exhibited to the public at large in November next. The block of white marble generously offered by the Greek Government will be made available as a pedestal. Moreover the idea of partially sheltering the statue from the rigour of the London climate by means of a canopy of baldachin has been mooted; and Mr. Fitzwilliam Dick, M.P. for Wicklow, has made the munificent offer of a thousand guineas towards such a canopy if the project attain tangible proportions. In a few obscure holes and corners there may be noticed, naturally enough, sneers at the committee as a parcel of 'fussy persons' who are striving to attain notoriety by clinging to Byron's skirts; and as naturally there has been ventilated the old windy objection to any Byron memorial at all, on the score that the poet's most enduring monument is to be found in his own works. If this absurd doctrine were to hold good, what would become of the art of sculpture? Its professors would starve; or do those who deprecate the erection of statues to great men wish to confine the practice of the plastic art to the modelling of emperors, generals, and admirals, on the ground that they are not great?"

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

In the first volume of the "Transactions" of the Royal Irish Academy, 1787, there is a paper by Lord Charlemont, of Volunteer memory, under the title of "The Antiquity of Woollen Manufacture in Ireland, proved by a Passage of an Ancient Florentine Poet." The poem alluded to is entitled "Dittamondi," written by Fazio Delli Uberti, a nobleman of Florence. His lordship concludes, from some lines in the poem, that it was composed about the year 1364. The Florentine poet, having travelled over England and Scotland, passed into Ireland, and his description of our country commences thus:—

"Similmente passamo en Irlanda,
La qual fra noi e degna de fama,
Per le nobile Saie che cimdanda."

The translation is thus rendered by Lord Charlemont: "In like manner we pass into Ireland, which among us is worthy of renown for the excellent serges she sends us." His lordship goes on to strengthen his position by quoting the dictionary Della Crusca. The word *saia* being there described as answering our serge. A quotation in the same work mentioned gives an entry from a very old Florentine account-book, in which there is a charge of a *piece of (saia) serge* of Ireland. His lordship concludes from this that Irish serges was among the Italians an article of dress; and further his lordship observes that, on inquiry he finds, in very early times indeed, Ireland was noted for her woollens, which were freely imported into England. He quotes from Maddox's "History of the Exchequer," vol. I., p. 550, that in the reign of Henry III. one man accuses his partner in theft for having, as his share, a coat of Irish cloth. Also, by a statute of Edward III., cloths called frieze were made in Ireland and declared free of duty. And again, in 1482, a licence was granted to the Pope's agent to export Irish woollen, duty free; and by the 4th Edward IV., no cloth except of Ireland or Wales may be imported into England.

Historical research since the time of Lord Charlemont has brought further proofs to bear on his lordship's statement; and we find earlier allusions as to the use of *saia*, *say*, *sey*, or *serge* than those above quoted, proving the antiquity of woollen manufacture in Ireland, and its importation to England and the Continent. In the Civic records of London, in the "Regulations made by the armourers of London," 15th Edward II., 1322, one of the old city guilds, we have a passage in Norman-French, the translation of which is thus given by Mr. Riley, in his "Memorials of London and London Life in the Thirteenth, Fourteenth, and Fifteenth Centuries," "That a haketon [a jacket of cuilted leather worn under the armour, and sometime used as armour itself] and a gambeson [a jacket worn beneath the haketon or other armour] covered with sendale [a thin kind of silk, fine linen appears to have been also called], or with cloth of silk [possibly *sai*, *sey* a fine woollen cloth], shall be stuffed with new cotton cloth and with *cadaz* [or *cadaz*, flock of silk, tow, cotton, or wool], and with old sendale, and in no other manner. And that white haketon shall be stuffed with old woven cloth, and with cotton, and made by new woven cloth within and without."

In the 24th Edward III., 1350, in the "Regulations as to wages and prices in the City" of London, we have mention of *saia*, *say*, or *serge* again in relation to the tailors to the effect: "Also, that the tailors shall take for making a gown [a robe] garnished with *say* and with sandal, 8d. And again, in the same "Regulations" touching the shearmen, we have the following: "Also, that the shearmen shall not take more than they were wont to take—that is to say, for a short cloth, 12d.; for a long cloth, 2s.; and for a cloth of rayed *say* [serge] for getting rid of the rays and shearing the same, 2s." The rayed *say* or serge or other woollen cloth

used had rays or stripes on the surface. Long anterior to the above date cloth, leather, and other articles were imported into England from Ireland, and sent to other Continental ports.

In the "Ordinances of the trade called Whittawyers," 20th Edward III., 1346, we have the following regulation as to prices: "Also, that no one shall take for working at the said trade more than they were wont heretofore, on the pain aforesaid—that is to say, for the dyker of Scottes stagges [a package of ten], half a mark; the dyker of Yrysshe [Irish stags], half a mark; the dyker of Spanysse stagges, 10s.; for the hundred of gotesfelles [goats' skins], 20s.; the hundred roletther [roe leather], 16s.; for the hundred of skins of hyndealves [young female deer], 8s.; and for the hundred of kiddefelles, 8s."

Among the London Civic records we have still further and certain mention of Irish serge and other cloths. In 1316 the aulnage is granted [the collection of the king's duty on cloths] "to John Pocok, our dear vadlet, for canvas linen, cloth, napery [table linen] as well English as from elsewhere—wadmelles, heydokes, mendeps, kerseys, says [serge] of Louthe, worsted of Norwich, Ireland and Coustin, and all other says and scarlets, and all kinds of cloths of Lincoln, Essex, Norfolk, Suffolk, Kent, Stamford, Beverley, St. Oseth, Devon, and Cornwall." It will be seen from the above extracts how old has been the woollen trade of Ireland and other materials for foreign manufacture. Diligent research would produce stronger testimony than what we have adduced of the antiquity of several industrial arts in Ireland; but for the present we will conclude by mentioning that Tacitus, the Roman historian, states that, in his day, the ports and harbours of Ireland were better known to Continental merchants than those of Britain. The deductions are obvious.

In these pregnant times of architectural literature it is refreshing now and again to pore over an old tome a century or two old on building matters. You may not obtain much solid information, but if you fail on the score of instruction you will be compensated by amusing reflections. An old building book is now before us which we picked up some years since on a book-stall in London. It has a frontispiece, a long title page, and some very modest copper cuts. The frontispiece, which is not much unlike the picture of John Milton, represents the author of the work. Under the portrait we find the following inscription:—"Vera Effigies Veneri Mandey. Etatis sue 37, Anno 1682." We give a portion of the title, which is very long:—"Mellificium Mensionis, or the Marrow of Mensuring. Wherein a New and Ready Way is Shown How to Measure Glazing, Painting, Plaistering, Masonry, Joyners, Carpenters, and Bricklayers, Work, &c., &c." The measuring of land and all other superficies and solids is given, together with some "choice principles and problems of geometry," to which is added "an appendix left under the author's own hand." This old tome by Venerus Mandey is a "third edition with additions." The imprimatur is—"London: Printed for Ths. Jebb, in Little Britain, Sam Illidge, under Serle's Gate, Lincoln's Inn New Square; and Tho. King, in Petty France. MDCCXVII." The locality of Petty France was, we believe, on the site of Old Broad-street, between Little Britain and Bishopsgate-street. The author's epistle to his readers is somewhat of a literary curiosity. It begins with "Courteous Reader," and ends, "A friend to all, but more especially to those who are mathematically inclined. V. M." In the course of his address he asks forbearance for any faults in his work, but he is conscious that, if any, they are not of a gross character, as he tells us he has been as careful as he could in writing and correcting the printed sheets of the third edition for the press. He goes on to say—"To persuade any one to the study of this Science would be a folly, since the Ignorant (which are

blind) cannot judge truly, and to him that already understands it the Labour would be useless and unprofitable, and to the averse and careless it would be like the casting of Pearls before the Swine, the requisite knowledge whereof cannot be attained by such prejudicated Persons, although to many that are Judicious the usefulness hereof is already known; and to those Industrious Persons which are to seek in the knowledge of this Subject, and desire to be informed, this Treatise will fully answer their expectations." To building operatives of the present day, who pride themselves on their knowledge of figures according to Cocker, or "lines" according to Price, Pain, or Peter Nicholson, some of the descriptions would no doubt be amusing.

In chapter III we have "A digression concerning Ellipses, or ovaller arches, showing how to describe them, and make moulds for them, relating to Bricklayers—To describe streight arches and make their moulds, and—To find the diminishing of the sommering mould by the Rule of Three and likewise by Geometry." The appendix, "Treating in the First Place of the Measuring of Chimneys Reformed," is a work on which the author appears to be very proud, and he takes occasion to pitch into some of his rivals or contemporaries. He points out previous and existing errors in the method of measuring chimneys, and shows what he considers and proves to be the proper method. He speaks of one of his contemporaries in the following fashion:—"Some years ago it was my hap to measure the Bricklayer's work of an House wherein Mr. Leonard Sowersby, the late notorious Measurer, was concerned against me. We had oftentimes measured before that time, and also since in several places. But here we disagreed about the measuring of chimneys very considerably, which gave me occasion to delineate the chimneys on Paper, and to show him wherein he was mistaken, &c." Mandey goes on to describe his way and Sowersby's way at great length, showing at the end that by his method the true measure of the two chimneys showed a difference of 98 ft. 11 in. in favour of the workmen. "A very considerable quantity of work," quoth Mandey, "for the workmen to lose in one storey, besides the parqueting of the funnels, and so proportionally in every storey." We suppose the "notorious" Sowersby's reputation for measuring was completely squelched after the many examples given of "Measuring of Chimneys Reformed" by Venturas Mandey. Our author's book includes "A Garden of Geometrical Roses," written in Latin, by Thomas Hobbes, and "Done into English by Ven. Mandey;" also a translation of Hobbes's work on "Some Principles and Problems in Geometry thought Formerly Desperate now Briefly Explained and Demonstrated." Mandey's book is a curiosity in its way, yet after all it may be taken as a pioneer treatise of modern building literature.

In a letter written by Sir John Harrington, from Trim, in 1599, to a Mr. Coombe, we have some interesting particulars about matters in Ireland during the wars of Elizabeth with our native chieftains. Sir John Harrington, who came to Ireland to conquer military fame, was a man of letters, as he is known as the translator of Ariosto. In his letter he speaks, among other things, of the effect of his literary work in this manner: "The Irish lords, gentry, yea, and citizens, where I came I have found so apt to offer me kindness, so desirous of my acquaintance, that my friends think it a presage of a fortune I might rise to in this kingdom, though myself do little affect it. My Ariosto has been entertained into Galloway [Galway] before I came; when I got thither a great lady, a young lady, and a fair lady read herself asleep, nay, dead, with a tale of it. The verse I think so lively figured her fortune, for as Olympia was forsaken by the ungrateful Byreno, so had this lady been left by her unkind Sir Calisthenes, whose hard dealings with her cannot be excused, no, not by Demosthenes." How gallant of Sir John

A lady, and a fair lady to boot, to "read herself to sleep, nay, dead," called for notice on the part of the coroner, unless, indeed, dead meant what is commonly known as "dead asleep." But there is a resurrection even of the "dead asleep" as well as of the "dead drunk"; and we hope the "great lady, the young lady, and the fair lady" awoke with no evil effects from the perusal of Sir John Harrington's translation of Ariosto.

Referring to that part of the "Orlando Furioso," in which our countrymen were described by Ariosto, it will be found that Sir John Harrington, in his translation, has taken some liberties with his subject, and utilised his knowledge of Ireland, gained by his personal experience here, in drawing a picture of our countrymen. Joseph Cooper Walker, the antiquary, in his "Historical Essay on the Dress of the Irish, &c.," also notices the fact thus—"This last assertion seems to be in some degree corroborated by the following description of the Irish dress which Sir John Harrington has foisted into his translation of the "Orlando Furioso," though the courteous knight modestly throws a mantle over the nakedness of our countrymen:—

"Then come the Irishmen, of valliant harts,
Active in limb, in personages tall;
Naked they used to go in mantle parts,
But with a mantell yet they cover all.
Short swords they use to carrie, and long darts,
To fight both neare and farre, aloof withal.
And of these bands the lords and leaders are
The noble earls of Ormond and Kildare."

Sir John Harrington's services to the State were remembered; he received the honour of knighthood on the field from the Earl of Essex, and in the reign of James I. was made Knight of the Bath. H.

CORRESPONDENCE.

"ARCHITECTURE AT THE BELFAST INDUSTRIAL EXHIBITION."

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—The article on "Architecture at the Belfast Industrial Exhibition," in your issue of June 15th, has given rise to several letters, and, judging from the tone of their contents, possibly to some embarrassment to yourself.

As the author of the article in question, I may, perhaps, be allowed space for a few words, which, I trust, will have the effect of calming down somewhat the excitement of feeling which some of the writers seem to have been labouring under.

I fear I must acknowledge, however, that when three apparently independent persons each come to something like the same conclusion as to the tendency of this article, there may have been something therein to lead them to do so. Nevertheless it was written in perfect good faith, and I ask you and your readers in like good faith to receive this attempt at explanation.

There are two or three questions involved in the complaints of your correspondents, which I will now endeavour to clear up. First, the question of the propriety of anonymous criticism. Well, sir, in reply to that, whatever your correspondents' opinions, they will hardly dispute, that up to the present time, such has been the almost universal rule in periodical criticism of all kinds—literary, architectural, and dramatic; and your critic is at any rate not bound to be in advance of the leading architectural journals of London in this respect.

There is, secondly, the question whether (the propriety of anonymous writing being conceded) your critic has made it the cloak for a "slashing" attack on professional reputations.

I really think, sir, that if your correspondents will be kind enough to read again, and calmly consider, the article in question, whatever other demerits they may no doubt find in it, they will not find quite so much "anonymous blackballing" as they seem at first to have supposed.

That can hardly be called criticism which is not left at liberty to express an adverse

opinion as well as a favourable one of any work (as witness the liberty claimed and taken in the letters of your three correspondents with regard to the article in question). Everybody who puts a work of any kind before the public expects that the criticism upon it will be of a varied character, and offence will hardly be long entertained against any critic who, whether with *sound judgment or not*, states what he believes to be defects in any work, especially if he, at the same time, gives, so far as circumstances will permit, his reasons for his opinions, and thus leaves it open for any persons who choose to judge for themselves. They, it is true, will often judge differently from the critic; but he is hardly, on that account, to be accused of malice, envy, or slashing in the dark.

Your correspondents take exception to several expressions which, I am quite willing to suppose, may have been partly misunderstood, and which, as clearness should be the object of all writing, it might on that account perhaps have been better not to have used.

The phrase "bourgeois floridness of treatment" is one of these. I will amplify a little the meaning intended to be conveyed: it is a treatment which nine-tenths of our architects, metropolitan and provincial, fall into. They have to make a living; their clients desire such a treatment, and, in accordance with the laws of supply and demand, they naturally gratify them. Is it very offensive, then, for an art critic to state the fact about the work of any particular architect? The critics (anonymous) say the same thing every year about Mr. Millais and many other eminent artists.

The use of the word "cooked" has been objected to as applied to certain drawings. Well, I don't think it means anything very bad, and is a phrase common enough amongst draughtsmen, for a slight "improvement on nature" that was invariably taught at one time as the correct thing, and is sometimes desirable—at any rate very convenient; and I do not doubt that if the clever artist to whom the critique was applied were taxed with the things referred to, he would at once admit them, and say they were, if not necessary, at any rate perfectly legitimate. Is there any indication of malice in saying that the example might be dangerous to less experienced artists? In another case a building (which will be an improvement to our street architecture) was described as "debased"—that is, "late"—"Flemish Gothic." Well, I am free to admit that the architect would probably call it "Queen Anne," and in this case I acknowledge myself in error; but I still maintain that the building in question has, in general proportions and grouping, much of a Flemish look; and it is well known that Gothic types of treatment, clothed in Italian detail, more or less filtered through many sources, lingered on till a very late period;—at least some authorities of the present day would, I suspect, define the Queen Anne style as a "debased English Gothic." Still I will admit that, on reviewing the whole passage, an unintentional injustice may have been done to the authors of the design in question, the rectification of which I hope they will now be kind enough to accept.

The last passage which has been referred to is on the spire of a certain church. A well-known architect called attention in a public lecture to the feature referred to; and your critic, on examining a number of designs by the architect of the church, thought that there was to be noticed in all of them a tendency such as he mentioned in the article, and in a paragraph otherwise complimentary said so. Yet on that is founded the accusation, made in one of the letters, of the pigmy throwing stones at the giant. In this, as in all the cases mentioned above, the pigmy's opinion may have been wrong, and some other persons' opinions—your correspondents', for instance—may have been right; but I respectfully submit that in all these cases there has been nothing more than such legitimate diversity of opinion as may, and must, exist between persons who may never-

theless be equal in knowledge, competence, and honesty.

The question whether your critic possessed competence for the task he had undertaken, is one you can hardly expect him to enlarge upon personally, though it is obvious your correspondents have tolerably definite views on the subject themselves, and no doubt feel that they have been engaged in the laudable duty of exposing ignorance and unmasking knavery. From several allusions in their letters, however, I strongly suspect they have been spending their force in the dark in belabouring the wrong individual, and that their supposed knowledge of the authorship has somewhat affected their judgment of the character, or at least of the animus, of the work.

In conclusion, I may be permitted to state that probably no person ever wrote a paper who would not, on re-consideration, alter some one or other of the passages or expressions in it; and the writer confesses that he forms no exception to such a salutary principle; but he most strenuously and indignantly repudiates the possession of any such motives or objects as are attributed to him in the letters of your correspondents; and must express his regret that gentlemen—one of whom, at any rate, has achieved an enviable reputation both in art and letters—should have, even for a moment, entertained the suspicion that your critic—holding, he must presume, your honoured confidence—could have fallen so low as to abuse that confidence for purposes such as these letters only too plainly hint at.—Yours, &c.,

THE AUTHOR OF THE ARTICLE
IN QUESTION.

HEALTH AND SEWAGE OF TOWNS.

SOCIETY OF ARTS, LONDON.

THE Chairman of the Conference and the Executive Committee, after having carefully considered the information furnished from the various localities, as well as the facts brought forward during the Conference, have to submit the following as the conclusions to which such information appears to lead:—

1. In certain localities, where land at a reasonable price can be procured, with favourable natural gradients, with soil of a suitable quality and in sufficient quantity, a sewage farm if properly conducted, is apparently the best method of disposing of water-carried sewage. It is essential, however, to bear in mind that a profit should not be looked for by the locality establishing the sewage farm, and only a moderate one by the farmer.

2. With regard to the various processes based upon subsidence, precipitation, or filtration, it is evident that by some of them a sufficiently purified effluent can be produced for discharge without injurious result into water-courses and rivers of sufficient magnitude for its considerable dilution; and that for many towns, where land is not readily obtained at a moderate price, those particular processes afford the most suitable means of disposing of water-carried sewage. It appears, further, that the sludge in a manurial point of view is of low and uncertain commercial value; that the cost of its conversion into a valuable manure will preclude the attainment of any adequate return on the outlay and working expenses connected therewith, and that means must therefore be used for getting rid of it without reference to possible profit.

3. In towns where a water-carried system is employed, a rapid flow, thorough ventilation, a proper connection of the house drains and pipes with the sewers, and their arrangement and maintenance in an efficient condition, are absolutely essential as regards health; hitherto sufficient precautions have rarely been taken for efficiently ensuring all the foregoing conditions.

4. With regard to the various dry systems, where collection at short intervals is properly carried out, the result appears to be satisfactory, but no really profitable application of any one of them appears as yet to have been accomplished.

5. The old midden or privy system in populous districts should be discontinued, and prohibited by law.

6. Sufficient information was not brought forward at the Conference to enable the committee to express an opinion in regard to any of the foreign systems.

7. It was conclusively shown that no one system for disposing of sewage could be adopted for uni-

versal use; that different localities require different methods to suit their special peculiarities, and also that, as a rule, no profit can be derived at present from sewage utilisation.

8. For health's sake, without consideration of commercial profit, sewage and excreta must be got rid of at any cost.

COMPETITION IN WRITING AND DRAWING.

MR. Vere Foster, in his sixth report of the "National Competition" lately closed, writes:—

In order to encourage the attainment of excellence in writing and drawing, to elicit latent talent, to afford opportunities for distinction, and to open up avenues to remunerative employment, I instituted six years ago a graduated system of prizes, open to competition by pupils of either public or private schools throughout the United Kingdom, and, as the results have been highly satisfactory, it is my intention to continue this practice from year to year.

During the past year there have been 1,040 competitors in ordinary writing, 62 in plain and ornamental lettering, and 360 in drawing and painting. Boys and girls have competed in about equal numbers, there being 696 of the former and 727 of the latter, and there are about the same number of competitors from Great Britain as from Ireland. The total number of books received is 1895. The number of schools represented is over 400, ranging from Skibbereen in the south to the Orkney Islands in the north, and situated in upwards of 70 counties.

The highest prize for ordinary writing (£5) is, for the sixth time in succession, awarded to an Irish girl—Miss Alice Cunningham—a pupil of Mulloghane National School, in the county Monaghan. In the award of this prize I consulted, as usual, the first prize-winner of the preceding year, in whose unhesitating verdict I fully concur. She writes as follows:—"I have carefully examined the copy-books you sent me, and marked the defects. I consider Alice Cunningham entitled to the first prize." Miss C. is the youngest pupil who has yet attained to so high a distinction, as she was but eleven years and seven months old on January 1st, 1876. She gained prizes of 5s., 5s., and £1 successively in the three preceding years, though a large number of competitors on every occasion have been upwards of sixteen or even seventeen years of age. The second prize is awarded to John Moorhead, a pupil of the Methodist College, Belfast, and fifteen other prizes are awarded to pupils of the same young and vigorous institution.

In plain and ornamental lettering the competition has again been very close, and the work generally excellent. In the opinion of several very competent gentlemen, there is scarcely a shade of difference in the excellence of the work of the two foremost competitors. The first prize (£5), is awarded to Samuel Eakin, formerly a pupil of the Bailieborough Model School, and now a pupil of the Royal Academical Institution, Belfast. He obtained the second prize in the same subject last year, and also a prize in ordinary writing, and in seven different branches of drawing; and his name will be found conspicuous in several departments of this year's prize list. The second prize is awarded to Miss Annie Robinson, a pupil of the Belfast School of Art, apprentice to Messrs. Marcus Ward and Co.

The competition in drawing and painting has been both extensive and satisfactory, especially in the elementary books, A and C, outline flowers, animals, free-hand, ornament, and geometry, and in the painting of flowers in water-colours.

The awards for ordinary writing were made solely by myself, with exception of first prize, as above stated. The prizes for lettering are awarded by the first prize-winner of last year, with the concurrence of several other competent judges. The geometrical and mechanical drawings have been

most carefully examined and judged by Robert Young, Esq., C.E.; and all the other prizes have been awarded by a committee.

THE DUBLIN SCHOOL OF ART.

In the recent National Competition, the School of Art of the Royal Dublin Society has been highly successful, judged alone by the return of the award made to its students. One-tenth of the gold medals, one-fifteenth of the silver, and one-twentieth of the bronze medals, show a good scoring. The number of schools competing was about 140. Considering that the school, as a school, at present receives no Government grant, and is self-supporting, the results are more gratifying. The Dublin school has had other disadvantages to contend against not experienced by other institutions in this country or England receiving large Government subsidies. It has also been for the last thirteen years almost entirely worked by the Head-Master, Mr. R. E. Lyne and one assistant, together with a certain amount of help on the part of pupils. Under all circumstances, no matter what may be the shortcomings of the institution, an honest recognition is due to the management of the school, for working it up to its present comparative degree of efficiency and perfection.

The following are the names of the students and the awards made in the recent competition:—

Name of Student	Age	Description of Work	Award
Irwin, M.	22c	Muslin	Gold Medal
Jordan, F. L.	25c	Inlaid Border for Table	Silver Medal
Irwin, E.	24c	Lace	do.
Johnston, A.	24c	Tapestry	Bronze Medal
Lambert, L.	24c	Muslin	do.
Manning, M. R.	56d	Chalk Drawing (details) of Human Form	do.
Hanlon, Harriett	25c	Carpet	Queen's Prize

LAW.

INJURIES TO PAINTINGS IN TRANSIT.

COURT OF COMMON PLEAS.

Grey v. Baxendale.—This was an action to recover damages, laid at £300, for injuries alleged to have been caused to two paintings entrusted by plaintiff, Mr. Charles Grey, an artist resident in this city, to defendants, who carry on business as public carriers, under the title of Pickford and Co., to be carried safely and securely by them from Dublin to London. It appeared that the cases containing the pictures were placed under some boxes containing eggs, and that some of the eggs having broken, the albumen leaked into the case containing the pictures. The pictures were by this means seriously injured. One of the pictures had been painted by Grey himself, and this he valued at £200. The second picture was by his son, and this was valued at £100. The subject of the first picture was "A Scotch Burn," a view on a branch of the River Dee, while the second picture exhibited an original phase of humour. It had for its motto, "The devil another potato you'll root," and it represented an Irish peasant with a dead crow in one hand and a discharged blunderbuss in the other. The pictures were sent over for exhibition in the Burlington Gallery, but of course could not be exhibited owing to the damage they had received. Plaintiff and his son, also Dr. Cameron, Mr. M. A. Hayes, Mr. Henry M'Manus, and others were examined to prove the character of the injuries to the pictures, and the impossibility of remedying them. The jury found for plaintiff—damages, £100.

BARON DOWSE ON TEMPERANCE.

On Monday last, in addressing the Grand Jury of the County Meath, Baron Dowse made the following observations on the subject of temperance:—

"He wished that the gentlemen who were canvassing about the country to secure support for the Permissive Bill would give the working-classes something better to drink than they could get in public-houses, and that would not make them drunk. He would refer to one town, in which he had heard the water was not fit to drink, and the

analyst had condemned it as unfit for use. In that case he thought Bass's pale ale would be an improvement. In towns like this, on a fair or market day, men came in and closed their bargaining in sales or purchasing, after which they had nothing to do but go into a public-house and drink until the train time arrived. There were not four houses in the town where they could get coffee to drink. If the country gentlemen and the clergy would try to provide some more pleasant place than a public-house for these people to rest and refresh themselves in, there would be an improvement; education and religion went hand in hand; the lessons inculcated by the schoolmasters and the clergymen should be taken together, and surely Christianity ought to do some good in this respect, as hitherto it has done. The clergy ought to do their best to repress the evil; but he looked upon moral means as better than any repressive legislation. He hoped they would pardon him for making these observations, for in reference to this crying evil in the country he felt deeply. He found that of the £70,000,000 of revenue of the country, there were £30,000,000 derived from the malt traffic. He believed one-fourth of the wages of the working-men was expended in public-houses, to the destruction of themselves and their families. Could not something be done to stop this? He was as anxious to stop it as any man favouring the Maine Liquor Law or Permissive Bill, and would be very glad to do so without coercion."

HOME AND FOREIGN NOTES.

The County Court-house, Wicklow, is to be "enlarged, improved, altered, and repaired," at a cost not to exceed £1,800.

PRIZES FOR MINING LITERATURE.—The Royal Geological Society of Cornwall offers a prize for the best essay on any mine or mining district of Cornwall, giving a full description of the lodes, with their direction, underlie, and all the phenomena connected with their ore-producing characters.

DEATH OF AN AUSTRIAN SCULPTOR.—From Vienna the death is announced of the sculptor and engraver, Joseph Cesar, who for the last thirty years has pursued the self-imposed task of raising, and in many respects creating, the art industry of Austria, and to whose disinterested efforts its present prosperity, especially that of the art industry of Vienna, is chiefly due.

PATENT LAW AMENDMENT BILL.—A meeting of patentees and others interested was held at the Patent Office, Nassau-street, on the 4th inst., R. E. Donovan, Esq., in the chair, and J. A. Fahie, acting as honorary secretary. The above Bill, having been carefully considered, a petition in reference to certain clauses contained in it was agreed to, and ordered to be forwarded to Sir A. E. Guinness, Bart., for presentation to the House of Commons.

TRADES CONGRESS.—The ninth annual Trades Union Congress will be held this year in Newcastle-on-Tyne, commencing on Monday, September 18th. The preliminary notice issued says:—"The unsettled state of the labour market in the leading branches of industries renders it of the greatest importance that the organised trades should make the forthcoming annual gathering even larger and of greater influence than those of the past."

"The Book of Fenagh," in Irish and English, originally compiled by St. Caillan, archbishop, abbot, and founder of Fenagh, *tempore* St. Patrick, has lately been issued from the house of Alexander Thom. In this work the contractions are resolved, as far as possible, and the original text restored. The whole is carefully revised, indexed, and copiously annotated by William Hennessy, M.R.I.A., and "done into English" by Denis H. Kelly, M.R.I.A. There is much genuine history in this piece of old Celtic literature, mixed up with legendary matter. It was written about the year 1300.

SHANNON INUNDATIONS.—In the House of Commons on Monday, Mr. Errington asked the Chief Secretary for Ireland whether, considering how little the Upper Shannon is used for navigation, he would be prepared to sanction and assist in removing or modifying the obstructions, such as Tormor wall, by which the water is kept back and whole tracts of country are flooded and fishery interests sacrificed. In reply, Sir M. H. Beach said—"I cannot say that the obstruction referred to by the hon. member does not exist. If by any rearrangement of the locks and sluices the obstructions can be remedied, and the landowners are willing to bear their share of the expense, the Government will be very ready to assist them."

"THE LABOUR LAWS."—A useful book, compiled by Mr. Howell, late Parliamentary Secretary to the Trades Unions of Great Britain, has been issued, entitled, "A Handy Book of the Labour Laws," being a popular guide to the Employers and Workmen's Act of 1875, and other cognate acts bearing upon trades unions and laws affecting capital and labour. The book, which is published at the low price of half-a-crown, will be found very serviceable to the members of all trade societies.

Messrs. Richard Martin & Co., in their circular, say—The cargo of pitch pine timber just landed ex "Vidsjaen," is of unusually prime quality and large size, averaging 83 cubic feet per stick. The cargo of crown memel ex "C von Truenfels," was shipped by Prince Wittgenstein, and is, in every respect, a very prime cargo. In addition to the goods now in store, particulars of which we annex, we have now loading and on the way the following cargoes, viz.:—"Equity," Quebec, oak, elm, ash, birch, board pine, red pine, yellow pine, pine deals of great breadth, spruce deals, 2 and 9 x 9, pipe and hogshead staves; "Etta Stewart," St. John, N.B., spruce deals, 7, 9, and 11 x 3; New Ship, St. John, N.B., spruce deals, 9 x 1, 9 x 1½, 9 x 2, 9 x 4, and 11 x 4; "Maria Adelaide," Memel, undersized timber and lathwood, 100 crown waincoat logs; "Oceola," "Nor," and "Morriv," Archangel, red deals; "Kong Eystein," Sagenmay, spruce deals; "Kildoonan," Richibucto, spruce deals. We have some lots of timber of last years importation which we would sell at very low rates so as to close the account.

FREE LIBRARIES.—Here is a hint for Dublin City Hall magnates. The experiment of opening London Guildhall Library in the evenings appears to be successful. There are 100 readers at present, and the number goes on increasing. The day readers are numerous. At a special general meeting of the Southport Town Council the question of a free library and fine art gallery for Southport has again been discussed. The mayor announced that the designs of Messrs. Waddington and Son, of Burnley, had been selected by the committee, and that the building would cost £8,000 to complete. He also announced that he had received a communication from Mr. W. Atkinson, J.P., of Southport and Manchester, who promised to give the £8,000 on the conditions that the architects finished the building for that amount.

FINE ARTS AND FRENCH INDUSTRY.—The Central Union of the Fine Arts as applied to French industry, which for fifteen years has striven, and not without success, for a reform in the teaching of design, will on the 1st of August open an exhibition which cannot fail to offer considerable interest. The rich collections of national furniture have been placed at the disposal of the Central Union, and will permit it to exhibit a series of the most curious suites manufactured from the reign of Louis XIV. to the present day. Eight rooms in the Palace of Industry, Champs-Elysees, are reserved for the productions of the Gobelins and Beauvais, whilst others will be set apart for the display of the ancient fabrics of La Trinite and the Gobelins in the sixteenth and the commencement of the seventeenth centuries. The other French establishments for the manufacture of tapestries—Aubusson, Felletin, Rheims, Lille, Gisors, &c.—will also be represented by specimens furnished from churches and museums in the provinces, or the collections of amateurs. Italy, Spain, Great Britain, and Belgium have promised their aid, and have already forwarded a list of the different specimens intended to represent their respective manufactures.

SALARIES OF CORPORATE OFFICERS.—A return has been made of the salaries of officers of the Dublin Town Council in 1863-4 and 1875-6. From this document it appears that the total of salaries in the former year was £10,893, and for 1875-6 stands at £15,200. What is called the "simple increase" is £1,380. £262 10s more is given to the Lord Mayor, but this is for payment of the salary of a secretary in lieu of fees now paid into the Borough Fund. There is an addition of £200 to the salary of the town clerk, raising it to £600; of £250 to the city engineer, raising it to £750; of £700 to the law agent for "new duties," raising his salary to £950 (of this Mr. MacSheehy's clerk gets £150). There is an addition of £200—well earned—to the salary of the chief of the Fire Brigade, who has now £400 a-year. The salaries for "new duties" amount to £1,000. The new appointments, chiefly in connection with the waterworks, city analyst, and sanitary officers, amount to £2,828. The cost of officers is thus £4,377 more than it was ten years ago. The present salaries are: The Lord Mayor, £2,262 10s.; town clerk, £600; assistant to town clerk, £350; office assistant to town clerk, £325; city treasurer and chief clerk, two offices recently existing, now consolidated, £360; city accountant, £350; city

engineer, £750; law and land agent, £500; law agent (Mr. MacSheehy), and for his clerk, £150—£950; two water-bailiffs, £400; sword bearer, £250; mace bearer and officer of commons, £200; high constable and billet master, £100; secretary to waterworks and Committee No. 2, £300; engineer's assistant, in room of late supervisor, £200; superintendent of Fire Brigade, £400; lieutenant of Fire Brigade, £100; superintendent of men, cattle market, and collector of tolls, £100; assistant to city accountant, £130; secretary to No. 1 Committee, £300; first clerk in office of secretary, £150; second do, £65; book-keeper in do, £100; two assistant supervisors of paving in office of secretary, present representative of the two receives, £125; two inspectors of streets, £330; inspector of sewers, £160; assistant surveyor in engineer's department, £175; inspector of lamps and tester of gas meters, £300; executive sanitary officer, £300; city marshal, £300; city analyst and medical officer of health, £200; consulting sanitary officer, £300; inspector of petroleum licences, £10; keeper of Morgue, £39; keeper of disinfecting chamber, £39; two inspectors of weights and measures and of diseased meat, £232; inspector of nuisances, £52; clerk in sanitary office, £52; inspector of hay and straw market, £100; assistant to city engineer, waterworks, country department, £350; assistant to city engineer, city department, £250; inspector of water taps, £126; telegraph clerk in office of engineer, £117; clerk in do, £104; pay clerk in treasurer's office, for No. 1 Committee, £95; clerk of licences in do., £104; pay clerk in do., for Waterworks Committee, £91; general clerk of works, £100. Total, £15,000.—*Freeman.*

BOOKS RECEIVED.

Geological Notes of Ireland, being an Account of the Formation and Localities of its Marbles, Stone, &c. By William Hughes. Dublin: M'Glashan and Gill.

Sanitary Work in the Smaller Towns, and in Villages. By Charles Stagz, Ass. Inst. C.B. London: Crosby Lockwood, and Co.

INSTITUTION OF CIVIL ENGINEERS (LONDON).

The originality, labour, and ingenuity displayed by the authors of some of the communications submitted to the society during the past session have led the Council to make the following awards:—

Telford Medals and Telford Premiums to—Walter Raleigh Browne, for "The Construction of Railway Wagons, with special reference to Economy in Dead Weight;" William Cawthorne Unwin, B.Sc., for his "Investigation of the Motion of Light Carriers in Pneumatic Tubes, when the Air is in continuous or permanent Motion;" Gilbert Richard Redgrave, for "Sewage Interception Systems, or Dry-Sewage Processes;" William Shelford, for "The Treatment of Sewage by Precipitation."

A Watt Medal and a Telford Premium to—Gabriel James Morrison, for "The Ventilation and Working of Railway Tunnels."

Telford Premiums to Charles Bontemps, for "Experiments on the Movement of Air in Pneumatic Tubes;" Richard Spelman Cully, C.E., and Robert Sabine for "The Pneumatic Transmission of Telegrams;" John George Gamble, B.A., for "The Brighton Intercepting and Outfall Sewers;" Wilfrid Airy, B.A., for "The Probable Errors of Levelling, with Rules for the Treatment of Accumulated Errors;" Sidengham Duer, B.Sc., "The Hydraulic Canal Lift at Anderton, on the River Weaver;" George James Symons, for "The Floods in England and Wales during 1875, and on Water Economy;" Charles Greaves, for "Evaporation and Percolation;" William Sugg, for "On Estimating the Illuminating Power of Coal Gas;" James Neilson Shoolbred, B.A., for "The Changes in the tidal portion of the River Mersey, and in its Estuary."

And the Manday Premium to David Alan Stevenson, B.Sc., for his paper on "The Dhu Heartach Lighthouse."

Some of the papers read at the supplemental meetings, exclusively by students of the Institution have likewise been similarly acknowledged, thus:—

A Miller Scholarship has been given to—The Hon. Richard Clero Parsons, B.A., for "The History and Theoretical Laws of Centrifugal Pumps as supported by Experiment, and their Application to their Design."

While Miller Prizes have been bestowed on each of the following cases:—Arthur Ernest Baldwin, for "Tunnelling in the London Clay;" George Barclay Bruce, jun., for "The Rio Tinto Mines Tunnel;" Richard John Gifford Read, for "Metallic Veins and Works in connection with Tin Mining, and the Dressing of Tin Ores;" Joseph John Tylor, for "The Sinking of a Coal Pit in the Rhondda Valley, with particulars of the means employed and of the cost of the work;" Joseph Tysoe, for his "Description of a Grain Warehouse and Malting, and of the Apparatus used for removing and distributing the Grain;" William James Chalk, for "Some Methods of Screwing Piles, adopted in the Construction of the Withernsea Pier;" Arthur Spence Moss, for "Underpinning, with recent Examples;" Arthur Cameron Hutzig, for "Concrete in Marine Works."

TO CORRESPONDENTS.

ARCHITECTURAL CRITICISM.—So long as no unfair attacks are made displaying a personal animus, architects no more than other artists should feel aggrieved. Some one we know has written "Of all the cant in this canting world, though the cant of hypocrisy may be the worst, the cant of criticism is the most tormenting." It happens sometimes that the truths of criticism are found to be very annoying. If it be deserved, it is better, we think, to grin and bear it; if undeserved, there is more than one form of public appeal outside law and angry abuse; but as we are speaking in a general way there is no necessity for us to go into particulars.

"THE LIFFKY NUISANCE."—All we need say upon the question is that it stinks—the subject from its handling and the river from its want of it.

C. E. (London).—At Kingstown Harbour, but shortly at the North Wall, Dublin.

A YOUNG ANTIQUARY.—Read the recently-published work of the late R. R. B. on "The Ecclesiastical Architecture of Ireland, to the Close of the Twelfth Century."

A CARPENTER.—We quite agree with you as to the tastes of some of your brother craftsmen. Some of them consider themselves clever, no doubt, in being able to "find a centre to describe a circle which will touch three points made at random," or "to raise a perpendicular on the end or middle of a straight line without the application of a square." Some of these operatives (and more's the pity) are unable to keep their own perpendicular for one whole week through their unfortunate proclivity for "falling moulds" and "skew bucks." To be sure it is all through the fault of that little "drop."

J. C.—Postage stamps will be received in payment of small amounts.

Received—E. W.—B. A.—Surveyor—R. D. S.—M.D.—Amateur Plasterer.

NOTICE.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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PRESS NOTICES.

Athenæum.—We cannot now continue an examination of the contents of Mr. Brash's capital book. Let it suffice them that we recommend the perusal of the chapters on the churches of the Cistercian Order, Fonts, some of which have curious peculiarities, Masonry, and Early Christian Masonry. . . . Mr. Brash is a painstaking and accomplished student.

Academy.—Since Petrie gave to the public his (alas!) unfinished work on the Ecclesiastical Architecture of Ireland previous to the Anglo-Norman Invasion, the work which heads this article is the most important and valuable contribution to an interesting and almost unexplored branch of knowledge. . . . The volume does great credit to the enterprising publisher.

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The Irish Builder.

VOL. XVIII.—No. 399.

Public Works in Ireland.*
FIRST NOTICE.

THE Report, with Appendices, just issued for 1875-6 is an important one, for, in addition to the usual information respecting the operations of the Board, among the appendices we have a valuable report by Mr. T. N. Deane on National Monuments and Ecclesiastical Ruins, descriptive of the works executed, and their results, accompanied with a number of explanatory drawings. To the latter we will more particularly refer hereafter.

Numerous applications have been made for loans between April, 1875, and March, 1876, on the part of corporations and other local authorities, for the execution of works under the Public Health Act, Burial Grounds Act, Railway Act, and other acts. Several of these applications for loans have been sanctioned, and others are under consideration, the total sanctions during the past year for all services being £449,826, as against £328,904 in the previous year. Loans have been made for the supply of water in fourteen districts, amounting to £60,900; and to seven districts for sewerage and drainage works, to the extent of £27,448; the total sanctions under the act being £96,848, compared with £54,200 for the previous year. These figures include advances to the following localities: Newry Poor Law Guardians, £5,000; the Dublin Corporation, £35,000; Galway Town Commissioners, £28,000; Belfast Corporation, £12,000. To the above may be added a loan of £10,000 for drainage works at Kingstown.

The Board are glad to observe that there is an increasing desire shown by the public to take advantage of the powers conferred under the act 29 and 30 Vic. of advances for the purpose of erecting labourers' dwellings in towns. We hope to hear of a still greater desire being evidenced in this direction. The repayment of these loans may be extended over a period of forty years, during which time an annuity of £5 0s. 8d. per cent. discharges the debt including interest. Since last report the following loans in the above direction have been approved of:—J. R. T. Mulholland, &c., Belfast, £7,502; W. H. Hill, Cork, £1,525; Harbour and Dock Warehouses Company, Cork, £3,480; the Earl of Enniskillen, £4,935; the Corporation of Waterford, £1,800; the Cork Improved Dwellings Company, £5,000. Loans have been sanctioned for the Lough Oughter and Stoneyford drainage districts for £15,000 and £22,000 respectively, making, with supplemental loans granted to other districts, a total allocation for drainage works during the year of £48,800. To this a further sum is to be added of £1,950 to restore the works of other drainage districts, trustees having neglected to maintain them.

* The Forty-Fourth Report from the Commissioners of Public Works in Ireland, &c. Dublin: Alexander Thom. 1876.

Other sanctions out of the Public Works Loan Fund during the year, under the provisions of the act 1 and 2 William IV., include—£2,000 for enlarging the court-house at Maryborough; £1,110 for improving roads in county Carlow; £15,000 for rebuilding court-house in county Sligo; £1,350 for fishery pier, Bowmapeaka; £300 for burial ground for Ballinasloe Poor Law Union; and £900 for Kilbarrack burial ground, North Dublin Union.

Re the Land Improvement Loans, the last year shows an excess of £14,890 over the previous year, the loans approved during the year being £125,000. There was a sum of £88,700 allocated under the Land Act since the last report to assist tenant farmers to purchase their holdings, which sum is in excess of the previous year, when it only amounted to £54,000. Since the passing of the Act of 1870, 456 tenants have purchased their farms, becoming proprietors to the extent of 29,967 acres, at a cost of £476,002, including £281,752 advanced by the Board. The annual rent paid in respect to these holdings was £19,327, against which the annual rent charge payable to the Government for thirty-five years will be £14,087.

Passing over details of "Advances and Repayments" during the year, we come to some particulars about operations under the Irish Reproductive Loan Fund. In the report of the Board for last year it was stated that this fund consisted of £42,061 in 3 per cent. Consols, and £974 cash, vested in trust on account of ten counties by the Act 37 and 38 Vic. to make loans for fishery and other purposes, including instructions in agricultural science, which cannot be provided for by local rates or assessments. Rules approved by the Lord Lieutenant, under the 10th section of the act authorise loans from £5 to £500 at 2½ per cent. interest, to be repaid within a term of years not exceeding ten, and a direct bond is taken in each case, conditional on the due application of the advance to the purpose for which it is made. The counties benefited are, Clare, Cork, Galway, Kerry, Leitrim, Mayo, Sligo, Roscommon, and Tipperary. As Roscommon and Tipperary are non-maritime counties, no applications were made, and in respect to these, as well as Limerick, where there are no fishermen, the Board has applied the surplus dividend to purchase £150 on account of such county. Of the 370 loans made for fishery purposes in respect to the above counties, all were granted on the recommendation of the Fishery Inspectors after due inquiries. The administration of this fund appears to throw additional labour upon a portion of the Board's staff, and some organisation for the better working of the business in relation seems to be necessary. There are no officers or other agencies in the various creeks and fishing stations in which the fund has to be allocated, and many stations are in remote parts of the country. The Board, however, has accomplished their task by throwing upon each borrower the obligation of procuring the services of a magistrate, clergyman, or other public functionary in the neighbourhood, who is invited by circular to write to the Board stating that he would be willing to see the promissory notes executed by the borrower and his sureties, and to verify their correctness by signature on each.

In the matter of Public Buildings, their provision, repair, and maintenance, we are

told that the work has been duly attended to during the year. Negotiations for the acquisition of the premises required for the enlargement of the Cork Post Office have been concluded, and the new buildings will be shortly proceeded with. Offices for the postal service in the new public buildings at Londonderry and Waterford are near completion. Customs buildings throughout the country have been as usual kept in repair, and at the ports of Londonderry and Waterford offices have been provided in the new public buildings for the Customs service. At Limerick Custom House a redistribution of office accommodation for the departments occupying the building, have been carried out. At the Phoenix Park Constabulary Depot four baths have been provided for the men, also a recreation room, and the depot store has been re-constructed. New constabulary barracks have been completed and occupied at the following places—Bruff, County Limerick; New Pallas, Tipperary; Kinnewry, County Mayo; Balla, and Cuilmore, and new barracks are in progress at Monaghan and Howth.

In relation to Metropolitan Police buildings, a cleaning room and bath room have been added to the barrack in the Lower Castle Yard, and like accommodation has been provided for Summer-hill and Manor-street barracks. At Cabra, Kilmainham, Booterstown, Blackrock, and Kingstown, improvements have been made in the barrack buildings. A new building for the accommodation of the lithographers engaged in the Ordnance Survey at Mountjoy Barracks has been completed, and at the Royal Hibernian Military School new shed accommodation, and the improvement of some of the masters' quarters, have been completed.

Coast guard stations have been completed during the year at Ballymoney, County Wexford; Dunany, County Louth; Moville, County Donegal; Pollocheeny, County Sligo; Rathmullen, County Donegal; Ringsend, County Dublin; and Youghal, County Cork.

Works are in progress at the following new stations—Bray, County Wicklow; Cahermore, County Cork; Cushendall, County Antrim; Costello Bay, County Galway; Cranfield Point, County Down; Gortrummagh, County Galway; Killybegs, County Donegal; Portaferry, County Down; Port Ballintrae, County Antrim; and Port Kinnagoe, County Donegal. Extensive additions and alterations at the stations at Ballyheige, Ballymacaw, Ballyally, Cappa Dooran, Howth, Kingstown, Lockeen, Oyster Haven, Roche's Point, Sutton, Tribane, and Waterville. The works of repair and maintenance at various stations cost £4,812.

At Dundrum Criminal Lunatic Asylum a new dairy, &c., and a shed in exercising yard for patients have been provided; and at the Botanic Gardens, Glasnevin, an additional storey has been put to the foreman's cottage.

Thirty-one new ordinary literary National Schools have been built in the past year at a total cost of £9,855 6s. 4d., towards which the Board paid as grants two-thirds, or the sum of £6,570 4s. 8d., the remaining third being contributed by local persons interested in the schools. In additions, enlargements, improvements, and reparations at 28 schools, the cost amounted to £2,017 8s., of which the Board paid two-thirds. In new works, alterations, repairing and maintaining the Metropolitan (or central) Model School buildings, the District Model, Minor Model,

and Model Agricultural schools, the Board expended the sum of £4,956 4s. 9d., and a further sum of £1,818 10s. 4d. for furniture for those buildings; and in ordinary literary National Schools in charge of the Board a sum of £2,576 13s. 7d. for works of maintenance and repair.

We may remark here that our Irish National Schools in general are but modest structures compared with school buildings in the sister kingdom, and of course there can be no comparison drawn between them and the School Board Schools erected since 1870 in London and throughout England. The cost of some of the London School Board Schools would erect a score or more, in some instances, of our Irish National Schools, excepting of course our central schools. Viewed in this light, the whole of the money expended by the action of the Board of Works in the erection and maintenance of National Schools is but small, though not the least valuable on that account, considering all the circumstances. It is time, we think, that our National Schools in Ireland should show an improvement in design, construction, and general arrangement. They are not, to speak the sober truth, "things of beauty," and therefore they will not be "joys for ever," or a tithe of that time, whatever division of time that space may mean.

During the year eleven applications have been made for loans under the Labouring Classes' Lodging Houses and Dwellings Act (Ireland), seven of which loans have been decided, amounting to £24,242 for the erection, &c., of 259 dwellings.

Of national monuments, harbours, and other works we will speak in detail when we come to the special reports in relation thereto contained in the appendix. Under the head of Land Improvement, we find in respect to farm buildings 959 loans have been sanctioned since the passing of the Act 13 and 14 Vic., amounting to £468,323, and of these 113, amounting to £59,865, were approved since the date of last report. For the erection of agricultural labourers' dwellings the number of loans sanctioned since last report is 34, amounting to £22,675, making a total of 305 loans, and issues to the amount of £166,985 since the passing of the Act 23 Vic.

Re Limited Owners' Residences, under the Acts 27 and 28 Vic., 33 and 34, and 34 and 35, applications have been made during the past year for the erection of mansions by—Samuel Thompson, Esq., Muckamore Abbey, County Antrim; Mrs. Pauline Grattan Bellew, Stradbally, Queen's County; and Henry Herbert, Esq., Cahirane, County Kerry. An application by Henry Bruen, Esq., M.P., Oak Park, Carlow for extensive improvements to the Oak Park mansion, after due examination, has been granted. An application by H. A. B. Wallis, Esq., of Drishane Castle, County Cork, for improvements and additions to his mansion is also being granted.

There is much matter in the present report before us which is highly suggestive, but we will await another opportunity for having our say upon things in general and particular.

LOW SUNSHADES.—Several shopkeepers in Sackville-street and Capel-street were fined for obstructing the public footway by having out sunshades at a lower elevation than that provided by the Dublin Improvement Act. Attention has frequently been called in these columns to this as well as many other impediments to pedestrian progress.

ST. STEPHEN'S GREEN.

SOME days since in the House of Commons, Mr. Maurice Brooks asked the Chief Secretary for Ireland whether her Majesty's Government, having recently intimated its willingness to recommend to Parliament the grant of an annual sum of £600 for the maintenance of St. Stephen's Green, Dublin, as a public or people's park, on conditions, amongst others, that the Corporation of that city should forego a yearly rent of £276, now receivable thereout, and should also contribute a sum of £600 annually, will recommend that, subject to such regulations as Parliament may approve, the control of said public or people's park, and the expenditure of the said Parliamentary grant be entrusted to the Lord Mayor and Corporation of said city. And whether a precedent of such a course is not to be found in the Parliamentary grant to the Royal Dublin Society for the maintenance of Leinster Lawn?

Sir M. Hicks Beach, in replying, said—Sir, the question of my hon. friend is based on the supposition [that St. Stephen's Green is or will be a public park. It is not so at present, and whether it will eventually become so is a matter for Parliament to decide. If the parties who are desirous it should become a public park make applications to Parliament, if the Corporation should make such application, and should be successful in obtaining control of the Green, then the question of my hon. friend might be put, and of course the Government would consider it carefully. But at present it appears to me entirely premature to express any opinion on the subject, and I must say that I do not think that the case of Leinster Lawn furnishes a precedent in the matter.

THE AUTOKINETIC TELEGRAPH.

[A FORE-AND-FIRE WARNER.]

THE object and use of this new invention is to lay in, at a small cost, a system of automatic telegraphy in every house, warehouse, and factory, and put them in communication with the fire brigade and police stations throughout the district. The most striking feature of the apparatus is that if a thousand houses were to "call" the fire brigade at police stations with which the wires might be connected simultaneously, there would be no confusion in the transmission of the messages. The messages, after having been despatched, simply sleep in the wire till the line is again clear, and are then printed off in rotation in the receiving instrument without the sender requiring to repeat his manipulation. It is stated that the invention has been carefully examined by telegraphic engineers of eminence in London, and pronounced a perfect novelty in telegraphy. The inventor is a foreign telegraphic engineer. The feasibility of such a system of telegraphy was suggested some time ago by one of our contributors in another direction. In justice to the inventor, we will add here that those interested in this useful invention, and who may wish to inspect the works of the apparatus, can do so, we believe, by calling on Mr. A. M. Moir, 71 Watling-street, London.

THE ASSOCIATION OF MUNICIPAL AND SANITARY ENGINEERS AND SURVEYORS.

THE third annual meeting of this body was held on the 6th and 7th of last month in the hall of the Institution of Civil Engineers, Great George's-street, London, Mr. James Lemon, President, in the chair. A number of papers were read at the conclusion of the inaugural address:—"Street Tramways," by Mr. P. B. Coghlan; "Street Pavements, as adopted in the City of Manchester," by Mr. H. Royle; "The Duplicate Mode of Town Drainage," by Mr. H. Jacob; "Constant Water Supply," by Mr. J. E. Greatorex. The first day's proceedings were concluded by a dinner at the Westminster Palace Hotel. On the second day, Mr. E. Clark, of Derby,

read a paper "On the Construction and Maintenance of Highways;" "On the Leeds Sewage Works," by Mr. A. Morant; "The Removal of Excrementitious Matter in Towns in Connection with Sewage Disposal," by Mr. E. Buckan, of Ipswich; "The Cost and Construction of Sewage Tanks," by Mr. T. W. Grindle, of Hertford. The author of the last paper stated that the cost of constructing sewage tanks varies with the locality, so that no reliable estimate can be given. At Hertford the brickwork cost £14 a rod; Pinder's End, £20; Backhurst Hill, £17 10s.; and Hatfield only £12 10s. At Pinder's End 15s. a cube yard was paid for concrete, at Hatfield only 10s. 6d., but in the former case cement was 2s. 6d., in the latter only 1s. 9d. He further remarked that the elevating machinery should be of the simplest description, that it may be worked by unskilled labour, the only kind that can be obtained to conduct operations on sewage work. The sledge should be elevated by the common dredge (chain and bucket). Pumps are cut by the silt in the sludge. The paper was illustrated by drawings of works executed by Mr. Grindle. The association now numbers 180 members.

BOOKS RECEIVED.

Sanitary Work in the Smaller Towns and in Villages. By Charles Slagg, Assoc. Inst. C.E. London: Crosby Lockwood and Co.

THIS work will be found generally useful as a reference for those engaged in sanitary duties in connection with local bodies, or for those outside them who take an interest in their own health, and the condition of the houses they may own as landlords or occupy as tenants. The book is divided into three parts, the first dealing with some of the more common forms of nuisance, and the remedies; the second, drainage; and the third, water supply. The author tells us in his preface that "the end and aim of all sanitary work is to get rid of the dirt in the midst of which we live, for it poisons the air we breathe, the water we drink, and in some measure the food which we eat." This is quite true, though nowise novel; yet, nevertheless, it cannot be said too often. An extract from the section on "Pigstyes" may not be out of place, as the pig in this country is a rather important animal as a rent-payer. Our author writes:—

"In some parts of the country almost every house has its pigstye. The pig is looked upon as a kind of a bank. It is probable that pig keeping by workmen is not economical, for the meal and other meat required to fatten the pig takes a deal of money, and it would probably pay the workman better to convert the waste products of the victuals into manure than to store them in tubs about the house to feed the pig with. The chief cause of the nuisance of pig keeping, however, is that the floor of the uncovered part of the sty is too rough to be kept clean. It would seem as if anything were thought good enough to pave the floor with, boulder stones, brick clinkers, or anything whatever which will prevent the pig rooting into the earth—a natural propensity of the pig derived, perhaps, from his wild ancestors, who got their living in that way. These rough floors, however, cannot be kept so as not to be a nuisance. Pigs, like most other animals, do not void dung on their own beds if reasonable provision is made for them to go elsewhere."

The proper construction of piggeries, the materials best fitting for their floors, their ventilation, and how their cleanliness can be preserved, are discussed. In the section on "Privies and Cesspools" excellent advice is tendered, and the subject is illustrated with diagrams. In the section on "Bad Air in Houses" our author observes—"Bad air is aerial sewage, and must be cleansed by oxidation before we can safely breathe it, as foul water must before we can drink it." He considers the ventilation of houses as difficult as ever the sewage question was, and that it will require for its solution as much research. On "Dirty Houses" Mr. Slagg writes:—

"We do not find clean people in dirty houses, nor dirty people in clean houses. When we look

into the causes of dirty houses we find that want of proper drainage for the house slops is one of the chief of them. A house must be considered to extend beyond the threshold of the door for, at least, some yards. Where, for some yards in front of the house-door, the surface of the ground is not paved, or so roughly paved that liquids cannot run off cleanly from it—that is one cause of a dirty house. The children run in and out many times in a day; and every person and animal of the household brings dirt into it continually. The poor women may try to rectify this by scolding the children and kicking the dog, or may drive the children away altogether, for some hours at least, to find a better place to run about in; but it all ends in failure and bad temper, and the house becomes permanently dirty. The dirt on the floor dries, and is kicked or blown about in dust which settles on the furniture and clothing, the walls and the ceiling, and is even carried upstairs. Bed clothes are thrown on the floor for want of other convenient place; washing day would come very often, if it were to come often enough to keep things clean, and often withal there is want of water. But the strength of spirit and body required to keep a clean house under these long continued adverse circumstances dies out, and the house falls gradually into a chronic state of dirt. The husband becomes dissatisfied with it and with all in it, and the usual consequence of that is what all well known to need to be mentioned. [He seeks refuge, of course, in the town ale-house or village pub, but he may be a lazy man himself, and lazy men are often dirty men.] It is enough to say that it is one of the circumstances of his life which does not lead to maintain his health."

Further writes our author:—

"Less money than the wife wants comes into the house because the rest has gone elsewhere. Children's clothes become worn out until scarcely any remain. She starves herself to feed her children, and even then insufficiently for their health. Sickness comes into the house, with consequent expenses. A dirty house is under these circumstances kept together as long as possible, but a frequent consequence is the necessity of parish relief, and the owners of house property pay, perhaps, more money in unnecessary rates than would be necessary for all the expenses of drainage. Dirty roads are another cause of dirty houses, and are uneconomical as well as in the cost of maintenance."

The above is a very fair picture, and it is not in any degree overdrawn. Similar and stronger pictures have been drawn by other sanitary reformers years ago of the consequences of dirt within and around households, and the want of drainage and a proper water supply. See "Another Blow for Life," by Mr. George Godwin, the editor of the *Builder*, published in 1864, and still earlier publications by the same author. The picture, however, cannot be reproduced too often, and Mr. Slagg is following in good footsteps.

The sections on the storage and contamination of water, house drains and sewers, paving materials, the disposal of sewage, water supply and conduit pipes, and other kindred subjects, are worthy of attentive perusal, for much valuable information is conveyed in a clear and intelligible form, made plainer here and there, where the subject required it, by illustrations. There is a short "Glossary of Terms" appended, which in future editions we would like to see greatly extended; to be really serviceable it should be wider in its range.

We may take another peep into the book on an early occasion, but for the present we shall conclude by recommending "Sanitary Work in the Smaller Towns and in Villages," as a book full of good advice, and one that may be safely consulted for practical information on sanitary matters.

Geological Notes of Ireland: being an Account of the Formation and Localities of its Marble, Stone, &c. By William Hughes. Dublin: McGlashan and Gill.

THE chapters forming this little work, as the author thoughtfully tells his readers in his preface, originally appeared in the *IRISH BUILDER*. In addition to the special matter, there is a chapter added, on "The Coal Formation and Mining Districts." Perhaps if the work was entitled "Notes on the Building Stones of Ireland: their Geology and Applications," the name would sound better,

however this is but a matter of opinion. To review this little book at length would only be to reproduce in substance what has already appeared in detail in these pages; still a few remarks may not be altogether amiss.

To the architectural and building student the study of geology is of no mean importance, for, apart from a desire of becoming a professional geologist, the architect, builder and building operative will learn, at a small cost of time and labour, much valuable information about the quality of building stones, how they can best be quarried and utilised in building construction. To encourage a taste in the above direction was one of the motives that led Mr. Hughes to write the little work under notice.

Without any special pretensions to scientific research, the author supplies the general reader with information attractive and useful, and, to those engaged in building operations, practical knowledge which they will find profitable if they will take the trouble to understand it. The first chapter is devoted to strata, the theory of the origin of igneous rocks, deposition of sedimentary rocks, distribution of stone, chalk, volcanic rocks, and gypsum. The next chapter deals with tests applied to stone and our native granite. The remaining chapters deal with the formation and distribution of our other native stones—sandstones, limestones, &c.—and other building materials, their properties and uses. Some excellent remarks appear in an appendix entitled "Why Mortar Cements," which should be read by architects, builders, and building workmen, for the indispensable information conveyed is too often forgotten, and hence we have much "scamped" work. In opening of chapter V., Mr. Hughes observes—"Oolite, a carbonate of lime (of which the Bath and Portland stones of England are familiar examples) is found only in Antrim and Derry." It occurs to us that oolite is also found in the Carboniferous system on the shores of Killala Bay, County Mayo, and we believe Mr. Wilkinson, in his "Ancient Architecture and Practical Geology of Ireland," mentions the fact, and states also that it was used in the construction of the old Abbey of Moyné.

Knowledge and experience in the selection of building stones saves a world of trouble, and very often considerable expense. Granite has been largely used in some of our old and modern public buildings in Dublin, and a large amount of Portland stone has been imported to this country during the last 100 years. The Portland stone has worn well, and the native granite, too, in several instances. From a bad selection, however, in some cases the granite work had to be renewed. We have excellent limestones, sandstones, and granites in Ireland, and a knowledge of the facts contained in the little work under notice would, no doubt, often lead to a preference for the native building materials.

DRUMCONDRA AND GLASNEVIN DRAINAGE.

THE SEWERS, THE SEWAGE, AND THE SHORE.

AT a meeting on Wednesday last of the Sanitary Board of the North Dublin Union, a letter was read from the Local Government Board suggesting that it would be well to ask the Corporation for a definite reply to their application relative to the drainage of Drumcondra and Glasnevin districts. The L.G.B. thought that the matter ought not to be left in its present undecided position, and that if the out-fall through the Corporation sewer could not be obtained, the sanitary authority would, no doubt, find it necessary to resort to the other plan proposed.

The Clerk also read a letter from the City Engineer in reply to a communication from the guardians asking him to reconsider his decision as to the advisability of the Corporation constructing a sewer along Poplar-row sufficiently large to take the sewage of the Drumcondra and Glasnevin districts along

with the sewage from the very small area of the city to be drained by it. He (the City Engineer) felt compelled to adhere to his former opinion, and to strongly recommend the Corporation not to involve themselves with questions of river or shore pollution by introducing into the sewers the sewage from the districts referred to, unless the Main Drainage scheme be completed, enabling them to take this sewage into the low-level sewer proposed to be constructed, all storm and river water being excluded.

After some discussion, it was resolved, on the motion of Mr. Tickell, T.C., J.P., seconded by Mr. Gibson—"That a copy of the City Engineer's report be sent to the Local Government Board, and, at the same time, to state that the Sanitary Board are most anxious to carry out a proper drainage of Prospect, Glasnevin, and Drumcondra districts, but they cannot see their way thereto at present, and would be glad if the Local Government Board would suggest how it could be done without injury to the adjoining districts."

A WORKING MAN ON EDUCATION AND CRIME.

AN intelligent Irish workman, for many years resident in England (Lancashire), sends us the following picture of his experiences:—

"Compulsory education is now being strenuously advocated as a remedy, if not a panacea, for the ignorance and immorality which abound among us in England. You can scarcely get into conversation about the affairs of any family but it turns up that some branch of it has been addicted to drinking, entailing sufferings and embarrassments which they do their best to conceal. The notables and tradesmen keep dying off. Mr. So and So is dead; he was a clever man; what a pity he had not better and more sense. It ends with all this;—his companions go on in the same course which brought him to a premature grave. Moot the subject in any village and you are told at once of numbers of independent means who have killed themselves with drinking; examine our public establishments you will find everywhere the wreck of this habit. The workhouses may be considered justly the almshouses for the licensed victualler. Victims at the prisons nearly all refer their crimes and their fate to the beer-shop and public-house. All this is in England—in Bible-circulating and mission promoting England. But what astonishes me always is this, that the remedy—the only remedy—apparently relied upon and recommended, is more schooling and more education. Of course there is a difference in the kinds—some advocating the secular system only, others a mixture of religion; some consider there are no more powerful agencies for removing the juvenile ignorance, crime, and immorality with which the country is so much disgraced. How is it that with churches and chapels and institutions overhanging almost every street, with so many ministers, so many services, so many missionaries, and so much money spent, that the people after all are in a state of heathenism? Some twenty-five or thirty years since I heard it often repeated, 'Wait till the present generation dies off, and then we shall have a new and virtuous race of people.' Well, we have waited, and we see the result."

T. F.

MISTAKES MADE IN ARTIZANS' DWELLINGS AS HERETOFORE PLANNED.

BY THOMAS DREW, F.R.I.B.A.

I AM well aware that, at a juncture when an Artizans' Dwellings Company is being formed in this City of Dublin, an architect who goes into print on the subject will not be credited, by his professional friends at all events, with being wholly disinterested in making public the fact that the Artizans Dwellings question 'has had for some time his anxious consideration.'

I observe at the outset I am very profoundly indifferent to the views of my friends on this point. I am not more disinterested in the least than a friend who has indicated his intelligent acquaintance with the subject in the columns of the *Evening Mail*. I have no possible objection, should any philanthropists or speculative persons afford me the opportunity of putting the theories I hold into practice, to do so. At the risk of being

twitted with personal ends to serve, I think the failure or success of the Artizans' Dwellings Company is of greater importance to the community, and that there is some obligation on those who think they have any useful hints to give to bring them forward.

If the first Artizans' Dwellings undertaken in Dublin by the newly-formed company should not prove to be both practically and financially successful, a serious check will be given to a most hopeful movement for the welfare of the city. It would appear to me that in no single instance as yet has the problem of contriving thoroughly satisfactory Artizans' Dwellings been solved; and if the new company is only satisfied to walk by the light of previous examples, and adopt as models any of the different types of buildings already erected in London or elsewhere, its first essay will be marked by signal and conspicuous failure.

I have recently taken part in the Conference on this question at the Institute of British Architects, and visited the principal new blocks of buildings in London—the Peabody, Waterlow, and other blocks distinguished by names too long for enumeration. The impression left on my mind is, that, in some respect or another, each and all present some grave defects in plan and contrivance, and those of a nature that, while merely objectionable in London, would, if repeated in Dublin, be simply fatal to success. In a recent letter which appeared in the *Evening Mail*, from the pen of Mr. J. Rawson Carroll (who also attended the late Conference), will be found some of the most pertinent and sensible remarks which have been made on the question. I make no apology for intruding some further opinions from another point of view, as everything provoking discussion of the question is calculated to be of service.

Hitherto, it has appeared to me, the planning of Artizans' Dwellings has invariably begun at the wrong end. The first points to which ingenious contrivance should be turned is—heterodox as it may seem—by no means to the 'amount of accommodation' to be afforded, the 'gallery' system, the 'balcony' system or the 'fore-and-aft stairs' system, nor yet the moot points of wash-houses shared in common, or the superiority of one patent w.c. apparatus over another. The main and first question hardest to solve is: given a congregation of persons producing much sewage and refuse matter—unpleasant and a trifle dangerous—how is it to be got rid of? This has been heretofore apparently the last consideration instead of the first. There has been a vast amount of ingenuity—a great deal too much and too high class, in fact—brought to bear on it, and it is in this there is signal failure and shortcoming in every instance as yet. For example, the Peabody Buildings are by many degrees too 'nice' for their purpose; the "sanitary appliances" are the best of their kind; w.c. apparatus faultlessly scientific; sinks, taps, traps, moveable wash-basins, and laundry appliances a beautiful and interesting study to a philanthropic visitor, but a heart-breaking and constant charge to an intelligent overseer, and providing constant and light occupation for a small staff of repairing tradesmen. The 'handy' little dust-shoots with the patent revolving covers—one on the premises for each housewife—are beautiful contrivances, but the ultimate receptacle for the dust and refuse, the air-tight chamber in which it is accumulated in the basement, is an indescribable abomination. What may be said of the Peabody Buildings may be applied in more or less degree to others. The fact is, that for artizans' dwellings in Dublin w.c. apparatus *won't do*; ingenious traps and contrivances that can be put out of order by carelessness or mischief won't do; and lead-work or fittings that can be stolen won't do. I should be sorry to accuse the honest artizan of Dublin of lead-stealing proclivities, but I know of no place where lead-stripping and stealing is carried on with greater system and industry as a matter of fact. Accumulations of refuse depen-

dent on the periods of revolution of the Dublin scavenger won't do; and the question arises, so long as the offices of nature and economy of households continue to supply "matter out of place," what is to be done with it all?

I unhesitatingly say that, as regards the first and most serious one—the disposition of soil, we must solve the question by a return in some measure to simple and first principles in a system of open yards and 'un-apparatused' privies—a system which, by the way, is gaining ground among simple-minded and not ingeniously-scientific sanitarians, as not being attended with such unmixing disadvantage as compared with a fearfully and wonderfully improved w.c. system. It at once suggests itself that such yards should be isolated from the dwellings, and ventilated; and how to effect this in flat buildings is the main question. It then suggests itself that for communication with, and isolation for ventilating purposes, the staircase may be used.

I append herewith a sketch plan of the system I would propose. I make the central point of interest round which every other consideration will group itself, the main drain which is to remove soil, and which on the plan is indicated by the letter X. This I propose to be simply a sewer standing on end, its material glazed earthenware, its capacity 12 in. or 14 in. diameter, its connection at the bottom with the outfall drain by a large syphon trap of the same material as itself; in height carried up vertically well above the tops of the buildings, and left open at the mouth for free ventilation. Having provided on my plan this simple receptacle for what is unpleasant, I proceed to group my privies around it, and 'back' them against it, so as to enable them to shoot directly and simply by a slanting connection into it. Against the mouth of the connection I propose simply to have a heavy and strong flap, so balanced that the weight of the soil, &c. will open it for passage, and a push from a stick will remedy affairs if it is clogged without injuring any delicate mechanism. This I consider quite sufficient to prevent violent up-draught and noises from other privies. For flushing, to a partial extent I apply scullery sinks, which should be made of earthenware (not convertible metal at the marine *Bureau de Change*), its wastes untrapped, and shooting straight into the pans of the privies, giving them a certain amount of wash-out in each discharge of waste water. For the main and thorough flushing, however, I would apply at the top of the main shoot a single and simple flushing apparatus, capable of discharging a powerful rush of water with all the added force of a perfectly vertical discharge from a great height. This operation to be accomplished once a day or once a week, as may be required, by an attendant's not distressing himself further than by pulling a string brought down to the ground level for his convenience, unless in the further interests of science it might be considered an improvement to charge the flushing-box with carbolic acid or some other disinfectant when he should ascend to do so. So simple and unlaborious might this operation of flushing be rendered, that the secretary or even a director of an Artizans' company might, without loss of dignity, take a pleasure in occasional or periodical performance of the useful operation. I am tempted to observe that when we come to Artizans' dwellings, a ceremony of "flushing the first soil-pipe" might not be made one comparable in dignity and usefulness with that of 'laying the first stone' or 'cutting the first sod' of other operations.

I do not pretend that these arrangements I have described would be absolutely free from such amount of odour as the most fastidious would object to; but I maintain that such yards, open completely on the side turned away from the houses, isolated, and with free circulation of air all round, free ventilation up the soil shaft, simple trapping at the outfall drain, close-fitting covers or plugs for the privies and sinks, will be toler-

ably free from dangerously - impregnated odours. They will be in no respect worse than most open yards where privies under the old system are comparatively innocuous, and will be in a vast degree better inasmuch as no accumulation of soil can take place to any extent.

As regards the disposal of the dust and house refuse, we know that if it is left to the ingenuity of woman to find the *wrong* receptacle for dust or slops, it will surely be discovered, and precautions must be taken to make the dust-shoot as conveniently situated as possible, and as inconvenient as possible for discharge of liquids into it. I propose to place a dust-shoot common to all tenants in one block (with the usual effective revolving cover) on each landing, the nearest convenient position to the household. This dust-shoot I propose to carry up alongside the soil-shoot to the same height (or higher) leaving its mouth open to the air. It is at the bottom I would propose an entire change on the present arrangements. The filthy sealed accumulating chambers, where noisome matters ferment and become more noisome and offensive, should be abolished from use. The destination of the refuse should be a chamber above ground, open to all the airs of heaven, and its more particular receptacle a close cart or box on wheels, drawn away systematically and frequently to some depot at a greater distance, where it can deodorise itself by natural or assisted process at its leisure. A reserve cart or box might be kept to be backed into the chamber when its comrade was absent on a trip to the depot.

As regards the *economy* of such an arrangement as this, I contend that the advantages are obvious and superior to all of the previous 'model' arrangements. One soil-pipe to each block, instead of the cumulated expense of many soil-pipes, and superseding rain water down-pipes altogether by taking the rain water from the roofs. One dust-shoot instead of eight, ten, twelve, or more separate flues; indestructibility and inexpensiveness of materials; necessity for provision of washing-rooms, either common or separate, superseded by provision of the small yard which affords a washing place; one single water-pipe, without branches, for each block, one tap only for each household.

There is another and yet more striking advantage in economy of planning in this system. In all the variety of plans which I have before me it is in the provision of sculleries, w.c.'s, cupboards, pantries, &c., that the plans are cut up into innumerable pigeon-boxes and cribs, exhausting amazing ingenuity of contrivance, and often inconvenience and complication, and increase of workmanship—an element of expense. The provision of these otherwise complicating conveniences under what I may call the STOREYED OPEN-YARD-SYSTEM in a separate block leaves the area for the dwelling unhampered, capable of being divided by the minimum of simple partition work. How simple this may be I illustrate by a plan for a two-roomed tenement, affording with the minimum of partitioning, all the advantages of a hall or porch, privacy for three beds, warming with one fire, the cost of but one fireplace, and unobjectionably ventilated. It is an advantage of the system I advocate that it is immaterial to what size or plan of dwellings it be applied, whether in flats, new erections, or old 'converted' structures. Divested of the complication of plan by the removal of 'conveniences,' the only test of superior excellence which directors of a company need apply to rival plans, is the simple and short one, viz.—who gives us by his plan (assuming that it was to be built of brickwork) the greatest amount of cubical content, with the smallest number of bricks, and least extra labour thereon as usually measured. I would only add that in the yard building, as proposed, the quasi-octagonal form is adopted for the block, as by its canted angles, allowing more access of light and air to the residences.

6 St. Stephen's-green, Dublin,
July 24th, 1876.

SKETCH OF THE INSTITUTE OF BRITISH ARCHITECTS.*

(Continued from page 211.)

THE year 1849 was remarkable for the appointment of a committee whose object was precisely similar to the one which reported only last year, viz., an enquiry into the affairs of the Institute, with the view of increasing its efficiency. That history repeats itself is a proverbial fact, and it is curious to note that some of the problems which presented themselves for solution a quarter of a century ago, have turned up, like a recurring decimal, in the present day. Some of the schemes for improvement then devised have since been realised, as for instance, the publication of a synopsis of our proceedings at the close of each session, the appointment of special committees, the holding of an annual conversation, the requisition of original papers from newly elected members, the adjudication of prizes by the general body of members, and modification of the terms on which associates were elected. But wilder proposals for reform met with no encouragement and were consigned to that limbo which is guarded by prudence and discretion.

The following year found the Institute, like the rest of the world, big with hope as to the result of the first great exhibition of all nations. With great public spirit the members voted a sum of fifty guineas towards an undertaking, the effect of which though vastly overrated in regard to some of its aims, has I suppose, had a permanently beneficial influence on the industrial art of this country.

By this time Mr. J. J. Scoles had succeeded Mr. Poynter as honorary secretary, and in conjunction with Mr. C. C. Nelson held that office, while Professor Donaldson still conducted the foreign correspondence. I cannot mention their names or those of Mr. (now Sir Digby) Wyatt, and Mr. T. Hayter Lewis, who shortly afterwards occupied the same position, without reminding my hearers how deeply indebted the Institute is to the zeal and energy with which those gentlemen discharged their duties. They held office during a period which must have been a most critical one for the welfare and advancement of this society, and it is not too much to say, that but for their exertions it might never have been what it has since become.

It was at the foreign secretary's suggestion, that in 1851 the council, with the authority of the general body, memorialised Her Majesty on the subject of the royal tombs in Westminster Abbey, which at that time bade fair to perish from decay and mutilation. In the previous year a committee of members had done public service by their advice respecting the Metropolitan Buildings' Bill, then in course of preparation. A little later, we find in the annual report, an earnest appeal for the necessity of improving the dwellings of the poor, and special mention of Mr. George Godwin's name, which has been so long and honourably associated with that benevolent object. In these and numerous other instances, the Institute has identified itself with matters of national importance, and I trust will long continue to do so.

For some years following the period at which we have now arrived in the history of the Institute, no material changes in its administration took place; nor do we find any events of importance recorded in its annals. The number of members increased gradually, but not at the same rate as in the first *decennium* of its existence, and by no means so rapidly as at the present time. A considerable proportion of the annual reports issued by the council was devoted to comments on the papers read during the previous session. Events of public or professional interest, such as the completion of the Houses of Parliament, the establishment of the Architectural Museum, the international competitions at Amiens, Hamburg, and Lille, the Public Health Bill, and various architectural improvements in London, eli-

cited from time to time an expression of official opinion; but as they are matters lying beyond the immediate scope of this paper, I will not stop to consider them in detail.

The Metropolitan Buildings' Act, passed in 1855, marked a notable event in the career of the Institute, by including in its provisions that examination with the conduct of which the Institute has been since officially charged, and which every candidate who desires to become a district surveyor is obliged to pass before he can be appointed to that office. This practical recognition by the Government of our corporate body is one which could scarcely be gratifying to all who value its national status; and it is due to the memory of Sir William Tite to add that he availed himself of his position in Parliament to accomplish that which he was eminently qualified to recommend.

It was at first thought that this measure would have formed a basis for the adoption of one in which our profession is more immediately interested, viz., the establishment of a diploma, but the question, as you know, remains unsettled at the present time, in spite of endless discussion and arguments, which have almost become stale by repetition. The subject is so intimately allied with another to which I must presently refer, viz., the architectural examination, that I shall reserve the few words that I have to say respecting it until I can deal with both together.

The limited extent of my paper prevents me from describing at any length the origin and progress of the Architectural Association—a society of young and energetic students formed in 1842, and which, as you know, still flourishes under this roof. Suffice it to say, that in 1857 certain proposals were made by which it was supposed the association might be induced to join the Institute, and in fact become merged in it, on apparently advantageous terms. The offer was then, as it has been since, courteously declined; and though one cannot help regretting that in a profession like ours, one representative society does not suffice to secure all the requirements of a professional guild (and this in the interests of architecture, whether regarded as an art or a business it should undoubtedly do), one can nevertheless understand and appreciate that independent spirit of the association which has resulted in honest emulation and judicious self-government.

The time had now arrived when the increasing number of its members, and the enlarged scope of its corporate functions, obliged the Institute to think of securing more room and convenient quarters than those in Grosvenor-street. This desideratum led to the formation of the Architectural Union Company, a body of professional men who raised, by the issue of shares, a capital sum, sufficient to secure these premises for the occupation of societies connected with architecture, and with architecture alone. Such at least was the hope entertained at the time; and if I am wrong, I can but refer to the legend which runs across the front of this house. The principal floor was destined for the special use of the Institute, while the spacious galleries which were erected at the rear of the building were intended to accommodate the Architectural Exhibition, the Architectural Photographic Society, and the Institute itself, on certain occasions. But alas for the vanity of human aspirations! The Architectural Exhibition, after struggling many years, is defunct; and the Photographic Society did not long survive it. The Genius of Painting and the Goddess of Music, both arrayed in a somewhat commercial garb, have by degrees taken possession of the ground floor, while the sister art of architecture lives in daily fear that, as time goes on, they will be creeping upstairs. To drop the metaphorical strain, let me remind you of the specific purpose for which these premises were acquired, and express my earnest hope that we may ere long make some effort so to secure them for our society, that it may be housed in a manner worthy of its name.

In 1859, Mr. F. C. Penrose, whose researches in the field of Greek art had secured for him a well-deserved reputation, succeeded Professor Donaldson as hon. secretary for foreign correspondence; while Mr. Digby Wyatt, who had held office as hon. secretary for three years, gave up his portfolio to Mr. Thomas Hayter Lewis, better known of late years as the distinguished Professor of Architecture at University College.

In 1860 the Institute found itself in new quarters and under new generalship. Lord de Grey, whose last public act was to open the proceedings of the session, died full of years and honours, after having held the office of president for a quarter of a century. On the abstract question whether it is, or is not, desirable that that office should be held by a non-professional member, opinions may be divided; but there can be little doubt that, while the Institute was still young, and required the stimulus of royal favour and aristocratic patronage, Lord de Grey's social position was of immense service in securing those advantages. With his name our charter will be inseparably associated. To another non-professional president—Mr. Beresford Hope—the Institute is indebted for having been enrolled among the royal societies of this country.

Lord de Grey was succeeded by one whose name is among the most loved and honoured in our profession—an architect who at an early age received from the world, as a tribute to his talents and accomplishments, an amount of admiration which might have turned the heads of vainer men, but which wrought no change in his naturally modest and unassuming disposition. Gifted by Nature in more than one sense—a cultivated scholar, a refined artist, a courteous and kindly hearted gentleman—I can scarcely fancy in our profession a career more worthy of respect and imitation than that of Charles Robert Cockerell.

The removal of the Institute to its present quarters was followed by a large accession of members, and seems to have stimulated the council of that day to the consideration of novel measures. The subject of a professional examination had long been discussed in connection with the diploma question, and in 1861 it was brought before a special general meeting, at which considerable difference of opinion was expressed. Eventually the matter was referred to a committee, who in due course presented their report. Of this committee the late Mr. Arthur Ashpitel was chairman, and the late Mr. J. W. Papworth hon. secretary; and if the architectural examination scheme may be considered one of the good works of this Institute, to Mr. Ashpitel and Mr. Papworth must be accorded the chief praise for having accomplished its organisation.

In dealing with this important question two preliminary questions had to be settled. The first was whether the examination should be voluntary, and the second was whether passed candidates should be entitled to a diploma. The former was one which soon settled itself. In the absence of any legal obligation to qualify, a compulsory examination even for members of this Institute would have been out of the question, and the logical deduction was that a diploma, which conferred on those who possessed it no more right to practice than those who did not, was of no value. For a long time even the issue of a certificate was steadily opposed, and of late years, since that point was ceded, the mortifying discovery has been made that we have won a hollow victory. The principle on which a certificate should be granted is admitted on all sides, but meanwhile the examination languishes, not for want of certificates, but for want of candidates to claim them. The truth is that a certificate is not the same thing as a diploma, and the issue of a diploma involves a question on which a great difference of opinion has always prevailed. It is, in short, the question whether architecture should be an open profession or not. The arguments on both sides may be briefly summarised as follows:—The sup-

* By Mr. C. L. Eastlake, Secretary. Read at recent Conference.

porters of a diploma said, in effect: "We are members of a profession which is no less a business than an art. To the duly qualified practitioner it involves an expensive education, a long course of study, including researches in physical science, chemistry, geology, and what not, an acquaintance with mathematics and the theory of construction, an experience of legal issues, a commercial insight into the value of materials and labour, to say nothing of such accomplishments as an linguist and a draughtsman may claim. Is it right or is it fair that after we have spent the best part of our lives in attaining these qualifications, we should find ourselves, in the eyes of the public, in no better position than a builder's clerk, who being a pushing young man, with a little interest and more assurance than his betters, touts for every job that he can secure, and with no real pretensions to taste or advantages of education, slips into a practice which many a qualified man can never secure? The remedy for this is an examination and a diploma, without which no one should be allowed to call himself an architect. Establish them, and the public as well as the profession will be benefited."

On the other hand their opponents replied: "It is quite true that architecture is a business as well as an art, but it is an art first, and into the exercise of that art the element of natural taste, however cultivated, largely enters. How can the value of that taste be gauged by a standard which must always be fleeting and therefore empirical? Who can say, even of our accepted authorities, that they are unanimous respecting the choice of a style or even the varieties of a style? For three examiners who pronounce in favour of a design, you will find nine outsiders of equal eminence who call it commonplace. And if a criterion is to be sought among those monuments of antiquity whom all agree in admiring, a new argument must be encountered. The great masters of our art, who flourished in Italy and France, to say nothing of those in this country, graduated in no school of architecture, and who will contend that their works are the worse for it? It is true that you may eliminate the question of taste altogether, and confine your examination to matters of practical science, but whom will this benefit? Not the *bonâ fide* architectural student who has naturally turned first to the artistic studies of his profession, and who has yet to learn its science and its business from experience, but the builder's foreman or clerk of works, who has worked at the bench and knows twice as much about construction as any young gentleman who has just completed his articles. Your examination in short will become the means of admitting to the ranks of our profession the very men whom you wish to exclude."

Such, gentlemen, were some of the old pro's and con's of a question on which I will venture to offer no personal opinion, and from which I must now pass to other topics.

(To be continued.)

HEALTHY HABITATIONS.*

We are told upon the best authority that there occur annually in this country upwards of four and one-fifth millions of cases of preventable sickness, and that 125,000 persons are prematurely cut off every year from a neglect of sanitary precautions. We are accustomed to consider that the house is to blame for this desperate state of things, and the case is certainly a strong one. We dress in the morning, and unsuspectingly don linen washed, dried, and ironed in the home of a laundress, the inmates of whose non-disinfected household have been stricken down with fever. Or the contagious matter may have been imported in the woolly interstices of a coat shapen and sewn by an out-working tailor whose seat-board was within the length of a rose-tree from some one whom fever is fast hailing to the silent land. We then

breakfast, and if we escape enteric poison in the milk-jug it is entirely owing to the cleanly surroundings of the farm or dairy. The meal over, the post may bring us some infection in a newspaper, not one newly radiant from the press, but fresh from a friend whose house is under a fever-cloud, as was the case the other day, when the virus of scarlatina was conveyed from far Inverness to Exmouth. The Nemesis of uncleanness follows the innocent traveller, too, for 'mine hostess of the inn' has perhaps permitted him to sleep in a bed last occupied by one who has just sickened or who has insufficiently recovered from some ailment. Even if the bed be without reproach, his slumber may not have given him corresponding relaxation, and draughts from the window or chimney may have induced a violent cold just when the greatest radiation from his skin prevailed and he was powerless to avert it. Or the faint night breeze may be loaded with the invisible horrors of sewer-gas, which we all know very well is not an imaginary case.

Alas for the very poor, whom we shall have always with us, how do they suffer from domiciliary uncleanness! They risk the eating of cheap, unfit food, and the drinking of putrid water, we know; but they may also sleep upon beds made up of shredded rags which the dealers have collected from the marine stores and town dust-yards, innocent of cleansing or disinfection. Their wearing material is sometimes also just the shoddy made up of woollen rag flocks, from no one knows where, or they may have been purchased in the clothes exchange of some rag fair, and stored with germs only lacking an opportunity for mischief. A late outbreak of scarlatina in Hereford was traced to an old clothes-shop of this description. The furniture also of the poor classes is as likely as not purchased at an auction, the sale of which, fresh from an infected house, was not arrested by the health officer, as was a late sale at Sydenham. Nor do the poor suffer alone; they perforce communicate it to those around them. During the present year at Chippenham, the pew-cleaner bore infection into a family pew. The saddest case I know of occurred also this year at Leeds, where typhus was carried with some infected articles into a pawnbroker's house, and with fatal results. Sanitarians must aim at improving the dwellings of the poor first of all, and the hands of the health inspectors ought to be strengthened, so that they may not only seek out, but promptly remove the engendering evils. As fast as a crocodile's egg is discovered an ichneumon should be let loose upon it. The medical officer of health and his inspectors are here the masters of the situation, or rather should be, not the magistrate and his Admirals of the Blue. Perhaps, however, some day the police will get tired of so much hunting up of cases for the Board School, and will supplement a fair share of that by furnishing a list of sanitary delinquencies to the proper authorities.

The first chief consideration when about to erect a house is that of procuring a suitable site. In cities we have little choice except that of avoiding the neighbourhood of rank nuisances, such as slaughter-houses or gas-works. But it would, perhaps, be better to have built there the town residence rather than upon the more aristocratic site, since the foundations would have, it may be, to be built in trenches dug out of soft core. The labouring man suffers exactly in the same way, with this enhancement of evil, that in his case the house may be built up for the most part of old materials sold with the site, bricks sodden with the impurities of a century, and put together with mortar manufactured out of filth-saturated plaster. If the history of the 129,000 houses which have been erected during the last ten years in London were accurately known, some desperate revelations might be expected, and a great deal of metropolitan sickness accounted for. We ought, as has been said, to have a due knowledge of the amount of population in each street of every city within the land, and thus be able to detect unhealthy

areas by separating the cases of zymotic diseases from other seizures. By this means the causes of filth diseases might be rooted out. The late Dr. Ross pointed out a street in St. Giles's district, London, in which there was in the course of each year a death in every house. In the neighbourhood of a square in the same district the mortality was only one in forty-one houses. Not density, and not overcrowding, however, caused the fatality in the street named, but defects of construction and arrangement in the houses, and, above all, dirt inconceivable.

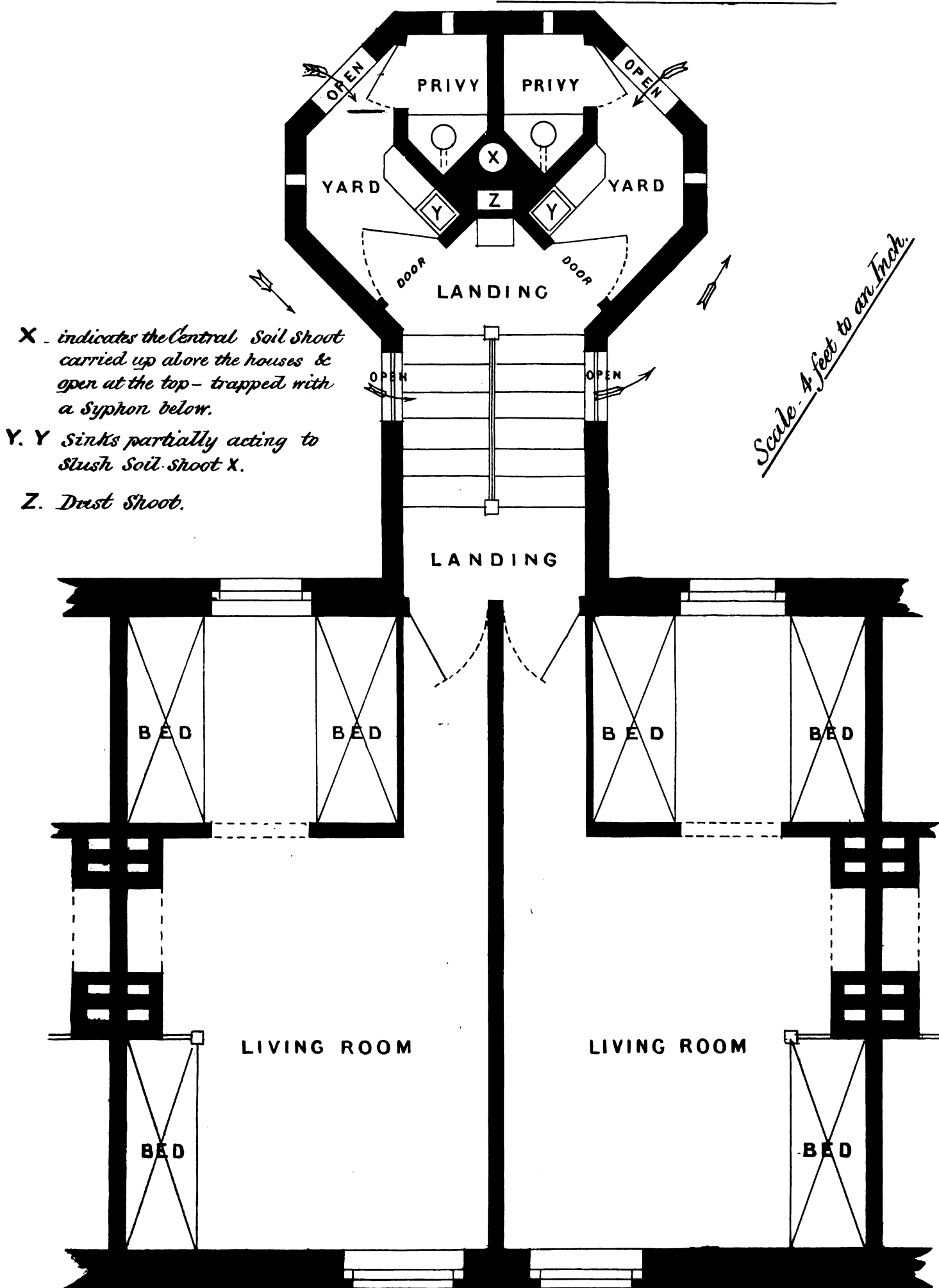
I have heard it repeatedly remarked that the mansions of the good old times were invariably built upon exceptionally good spots, with which no fault could be found. This may be true of most abbeys and priories, the sites of which were chosen by conclaves of wise men, but is not true if predicted of many old mansions, since I have frequently seen these, though commanding the finest views, abandoned to the owl, and new residences built at some distance, because of the healthiness of the fresh site. If our forefathers erred, however, occasionally, we err very frequently indeed. I could point out houses, dwelt in by patricians of our own land, the subsoil of which is continually—in flood time or dry harvest—charged with the water of adjacent streams or lakes, the water having actually to be pumped out of the cellars at stated times. Many modern mansions have I met, too, which had been erected as if in the bottom of a saucer of water-bearing rocks, and which are never dry.

When houses are built upon alluvial soil and the subsoil water lies close to the surface, the advent of malarious diseases may be regarded as a certainty. Paroxysmal fevers have also been traced to the digging up of the wide gravel walks in the gardens of houses unprovided with a subsoil drainage. A great deal has lately been said of the fevers due to the disturbance of the soil in Rome, and many experiments upon the ground-air have been made at home and upon the Continent. It is necessary that such experiments be made, for a medical man has lately related how, in Carlisle, he suffered for nine weeks from a fever due to the disturbance of the soil in the neighbourhood for the purpose of levelling a building site and constructing a new road on the estate. The prevailing winds must also be taken into account, for where the house has been erected regardless of neighbouring fens or marshes, and there are many even in crowded England, the malarial factors are many and intense. And, apart from all this, houses are sometimes rendered unbearable through standing open-mouthed in the way of winds blown from dry sewage outfalls and supersaturated lands. I know a nobleman's house one wing of which is made most uncomfortable during certain winds by a chemical works fully three miles distant. To a very serious degree indeed do dwellers in manufacturing cities and towns suffer when the noisome works are crowded in amongst the dwellings. These manufacturing vapours, during northerly and easterly winds especially, increase the local death-rates enormously. In Glasgow, when such vapours are condensed in fogs, the poorer districts, well open to their influence, have suffered a mortality of over 65 per 1,000, as against 19 to 26 per 1,000 in the better parts of the city at the same time. If there stands a sufficient reason for the weeding out of too closely congregated public-houses on the score of morality, a much greater necessity obtains for the better isolation of these unhealthy factories. And just as intramural burying-grounds have been banished to the suburbs, so should these atmosphere-poisoning laboratories be gradually moved on to the outlying districts, even should a workman's railway follow each of them.

It is customary with us to condemn the erection of a residence upon clayey soils, and to praise gravelly ones, but the choice is not always a happy one. True drift gravels may be free from sinister imputations, and so may deep permeable gravels and deep sandy soils, such as our Bagshots; for there the chance

* By W. Eassie, C.E. Read before the National Health Society, London, June 21, and published in *Sanitary Record*.

ARTIZANS' DWELLINGS — IMPROVED PLAN, WITH SIMPLIFIED SANITARY ARRANGEMENTS — ISOLATED YARDS & PRIVIES.



Thomas Drew F.R.S.B.A

Architect Dublin.

July 26th 1876.

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is that the many escaping wastes from our dwellings may filter harmlessly away. But shallow gravels, and gravels of mere river origin, if these rest on non-absorbent rocks, are to be suspected, inasmuch as the wastes which sink through them would anon reach the surface again. There is no natural surface drainage possible in such cases, and the adjective well-poisoning is also here well applied. Now upon a clay soil—and cholera flies from a clay soil—it has been remarked, all this evil can be avoided; the foundations can be built upon concrete, and even the whole basement, whilst the wastes can be withdrawn without fear of soakages. As a rule, all house sites should be drained just as fields are drained, and below even the concreting.

The greatest care should therefore be exercised in making a proper choice of a site. If the district be very damp and marshy, the influences of miasmas cannot, I think, be averted by any amount of gum-tree or sun-flower planting, however much moisture these may dispose of, and Dutch experiments on clean-water ditches to the contrary notwithstanding. They cannot be reckoned on to counteract the evils of a subsoil continuously fed with impure liquids. It has been said that it is in the power of floriculture to conquer a whole district from deadly malaria by covering them with aromatic vegetation, and the inspired writer may have had this in his mind when he spoke of the desert blossoming as a rose; but powerful as is the peculiarity of certain flowering plants to produce ozone, on exposure to the sun's rays, they could have but little effect upon the surroundings of a house which can only be drained in the subsoil upon which it immediately rests.

A word or two as to the prospect and aspect of a house; and the necessity of this has been carefully elaborated by Professor Kerr. The prospect may be chosen with the view to making the most of the scenery. As regards aspect, the north is best allotted to the dining-room, as the twilight lasts longest there, and the staircases are also best when arranged upon this side of the house, being always cool. For the larder and dairy this aspect is unexceptionally good. The bedrooms will be found most comfortable when facing the north-east, as they get a pleasant morning sun, and are correspondingly cool at night. The east is suitable for the breakfast-room, morning-room, and library, but not for the drawing-room, because of the east winds and lack of afternoon sunshine. In the south-east may be placed the reception and best rooms, and for a sick room this aspect is not to be surpassed for fitness. The south is unsuited for the dining-room windows, except there be a good verandah; and as for the south-west, it is the worst aspect of all, and unpleasantly hot for bedrooms. Neither is the west to be purposely chosen for bedrooms, or even for a dining-room; it is suitable, however, for the smoking-room and for one side of the conservatory. The north-west is suitable for an evening-room, if fitted with good blinds. To conclude, the east aspect is dry, but sometimes subject to bitter winds, which planting may obviate. The south-east is also dry and the winds mild, whilst the south is eminently sultry. The worst aspects are the southwest, with its frequent rains and boisterous winds; the west, with its rain and undue warmth; and the north, with its prevailing coldness.

It may be said that this care as to aspect is mere sumptuousness, but not so. Even in the case of a labourer's cottage in the country, when there was the whole welkin to choose from, how often do we see a senseless choice made. Just as we see a senseless choice made with villas when aspect has been ruthlessly sacrificed for prospect's sake. The bedrooms of the farm-labourer's family may look out on the north or south-west, the kitchen faces the west, the dairy the south, and the privy, dust-midden, and piggery dung-pit are all clustered together where the sunbeams most do congregate, instead of the north. I have no practical remark to make upon this part of my theme, except to lament

that intending investors do not oftener have recourse to models before they transmute their money into bricks and mortar. This precaution would cost little more than 1 per cent. on the outlay, and would save much heartburning. It is only what every good engineer does before he builds a bridge or constructs the simplest piece of machinery.

But to approach the house closer, ceasing, however, the alternate harpings upon rich and poor residences, and choosing a building of moderate pretensions as a representative erection. As we near it, we diagnose immediately and safely as to its healthy condition. If a damp one, it carries intemperance upon its face; its walls are dun-coloured in patches, due to dampness in the walls, a dampness which can be traced up outside at times to the first floor. The wet yards speak gushingly of water hidden below the pavement, and which cannot run its allotted course to the nearest brook. Once inside, we notice the damp basement floors which not the coal-wasting kitchen fire can recover to normal dryness; and in the more neglected rooms of the same floor it would seem as if they were intended for the production of newts and frogs. This is no overcharged picture, and is as bad many times when there is no cellar accommodation. The eastmepment of the house is moreover traceable elsewhere than in the ground-floor, in the cupboards of which, by the way, mouldiness grows upon the boots almost in a night's time; for in the library upstairs a mildew prevails, making limpid the rare leather bindings; and the sense of mustiness is ever present, even in the bedrooms. It is as if a premium had been held out to shiverings, rheums, and agues. Only last week I visited an ancestral hall in Lincolnshire, and found out just such a state of things in a new wing which had been built about a year. The painters of a noted West-End firm were busy coating the walls with oil paint, and nearly as fast as the coats were put on the water rose up the walls and bulged out the paint into blisters resembling those generated by a severe burn, and needing, in similar fashion, only the prick of a knife to liberate the water.

The state of things in this mansion was simply due to building the foundations without concrete underneath, and without any damp course to intercept the rising wet. Had the site been drained even, it would have been less of a blunder. Dampness in houses is often traceable to having laid the stone, tile, or brick paving upon the damp earth, one consequence of which may be that the floor will perhaps be lifted up out of its place by underside growths. Under every circumstance a bed of concrete should sublie all paving. Another cause of humidity in the house is due to the banking up of damp earth against the walls, and the non-provision of an area wall. The latter, like virtue, is indispensable, and the contractor who provides it when the designer of the house has omitted to specify it is worthy of the Order of the Pope's Silver Rose, if he has more than the "Golden" one. I would say to the builder—Put it in, even should you never get paid for it; for, depend upon it, if you do not the residence will always be cited against you as a badly-built one, and your balance due will be escheated, which may cause you a sweating sickness in the Bank parlour. I may also here add that the moistness due to the non-placement of a damp-proof course can alone be remedied by cutting out the wall and inserting one above ground-level line. No damp-proof paints can long withstand the enemy behind, which, when it ceases its legitimate march through the wall, only begins to crumble away at the wall material behind. True, it can be hidden from the eye by boarded linings, but the truce is only for a time.

I have often been called to a residence where a dank and unpleasant smell was prevalent, and traced it to nothing but rot. I do not allude to the wet rot which seizes wood alternately wet and dry, as between wind and weather of a fence-post, but the dry rot which is due to the placing of un-

seasoned wood, or indeed any wood, in close contiguity to the surface mould and the gases evolved in its decay, and in situations where there are no ventilating air-bricks, and consequently no change of air. Floor joists which have been long surrounded by dead air will weigh light as a feather when taken up, all due to fungus growths and the like. The worst of it, too, is, that by a catalytic action the decaying wood infects the sound, and the mischief never ceases until that whole level of floors is destroyed. If on inspection the attack has been found a moderate one, and the space between the joists and the ground sufficient, the infected places may be cut out and the space ventilated. A pipe may also be laid underneath the fire-grate for a time, to ensure thorough drying. But if the joists rest on the bare ground, the only remedy is to take them up, dig out the earth, laying down some concrete if necessary, and refix fresh and seasoned timbers. I would not depend even upon sulphate of copper or chlorine. Many architects specify the joists to be treated with various solutions, under pressure or otherwise; but it is really not necessary if good ventilation amid joists be provided. With greater reason should we seek to preserve our wood-carvings from the ravages of those three species of beetles which require plenty of light and open air, and which seem to look upon a rich chasing as does a gourmand upon a sumptuous restaurant. One wonders, nevertheless, how our fathers escaped these pests, and why we do not find the powdering rot or the shell-lined burrows in the time-honoured timbers of our many abbeys. I carefully examined an Egyptian coffin the other day at Dresden, and it showed decay of no kind. My own impression is that we build far too quickly, and out of undecimated materials.

(To be continued.)

ON GREEK ART AS ILLUSTRATED BY ITS MONUMENTS.*

In former days—I am speaking of no very remote period—when Goth met Greek, "then came the tug of war," architects were divided into two distinct and hostile camps; the Classicist and Mediævalist looked upon one another as sworn foes, and contended with one another on every public occasion. They even invented terms of contempt; one party stigmatised their opponents as Pagan, the other retorted by the inelegant appellation of Mid-devil. Now, however, happily we have changed all this; we have concluded a truce, and champions amongst the Goths walk into the tents of the Greeks and prove their armour. The fact is, that our views on matters connected with our art have become broader and more liberal; we have found out by investigation that the principles of all true art were the same at all periods,—in short, that the fundamental principle of all good architecture was the common-sense one of employing the best construction that the materials at the disposal of the architect and his knowledge of construction permitted, and of decorating the constructive features in the most appropriate manner.

This principle was common to the only two pure styles, the Greek and the Gothic, though the results differed widely; because the conditions under which the architect worked were so entirely dissimilar. The Greek, having no knowledge of the arch, hewed immense blocks from the sides of the marble mountains around him. Some of these he laid side by side in rocky beds hollowed and levelled to receive them, united them with clamps so as to form a foundation as massive as the rock on which he built—immovable even by earthquakes. This was the case at Priene, Halicarnassus, Cnidus, and elsewhere. Upon these he laid slabs of finer marble for his steps and pavements, and, with carefully worked blocks, he raised the walls of his cells; and then, as in his sunny climate, shade was the great desideratum, he sur-

* By Mr. R. P. Pullan. Read at recent Conference.

rounded the cella with porticoes and colonnades. Upon the columns he placed massive architraves and cross beams, tying the whole together. The frieze was generally formed of thin slabs connected with cramps, and left for the sculptured decoration. This ornamental work was protected by a cornice, with sufficient projection to throw off the water through ante-fixæ placed at regular intervals, the whole being arranged according to certain laws of proportion. The architect then called in the sculptor, who began at the top of the building and worked downwards. My reason for thinking that generally the work was erected in block and finished afterwards is, because in the Mausoleum, and the Temple at Priene, portions of the ornamental work have been left unfinished, and in the Temple of Apollo Branchidæ there is a column still standing which has never been fluted. When the sculptor had adorned the friezes, metopes, and, as in the Temple of Diana at Ephesus, even the columns with figures, the painter illuminated the whole with gold, red, blue, and other brilliant colours, so that when the temple was completed it was a perfect work of art.

The Mediæval architect having, as a rule, smaller stones to work with, understanding thoroughly the capabilities of the arch, and possessing a perfect knowledge of the proper ratio between bases of support and superincumbent weight, piled arch upon arch and pier upon pier, causing his building to spurn the earth and aspire to the skies, and thus constructed lofty vaults on comparatively slender columns, and erected spires which pierced the clouds on comparatively thin walls. At Salisbury, the wall of the tower is in some places not more than 8 ft. thick. He, too, designed his cathedrals according to certain rules of proportion, and decorated them with painting and sculpture, so that his building was also a perfect work of art. Therefore, the Greek and the Goth have no cause to despise and revile one another, seeing that the principles of their styles are identical. They have learned to look on both sides of the shield, and to own that each has excellences peculiarly its own, and that they are united by a common basis.

But my object is chiefly to point out certain qualities which are often denied to Greek architecture, but which it shares equally with the Gothic, and which no one who has studied its monuments *in situ* will deny that it possesses. These are grandeur, refinement, picturesque beauty with regard to its surroundings, and ingenious construction. Unfortunately, none of the greatest temples are still standing. There are, however, sufficient remains of one still in existence to assert its former grandeur. On the promontory of Poseidon, not far from Miletus, there are three columns standing, 63 ft. in height, portions of the walls of a cella built of blocks, generally 6 ft. in length; capitals of pilasters measuring about 6 ft. each way. The building was above 800 ft. in length by more than 160 ft. in width, with ten columns to the front porticos, and a double row of columns—106 in number—surrounding it. Such a building as this, which was 100 ft. in height (without reckoning the podium lately discovered by a French expedition, under MM. Riayat and Thomas), surrounded by a forest of columns, and approached through an avenue of seated figures and sphinxes (some of which are now to be seen in the British Museum), must have possessed a grandeur approaching the sublime, quite equal to that of any Gothic cathedral.

I next have to speak of refinement as evidenced by exquisite proportion, subtle contrivances to improve the optical effect, and the beauty and variety of curves of mouldings, which were varied to suit their respective positions.

The system of proportion employed by Greek architects has been thoroughly explained in a treatise by Mr. Watkiss Lloyd, contained in Professor Cockerell's fine work on "Ægina and Bassæ," and it is a remarkable fact that for the most part the three temples which I excavated were found, upon

a comparison of the various dimensions, to bear out his theory as regards both plans and elevations. That special refinements were used in the Parthenon no one who has read Mr. Penrose's learned work on that building can doubt. He therein proves satisfactorily that there was not a straight line in the building; and although the remains of the Temple of Priene were not in a sufficiently perfect condition to allow me to affirm the same with regard to it, I was able to note the fact that the walls of the cella battered, that the pavement of the peristyle sloped, and that the faces of the steps, the architrave, and curves of the cornices were none of them exactly vertical. These observations were made by the use of a level and plumb-line, with offsets taken at regular intervals. At a former Conference I had occasion to mention the variety of curves found in Greek mouldings,—of the beauty of their contours, and their suitability to their various positions. Thus, in each of these particulars there was a degree of refinement which is not equalled in any building of the Mediæval styles.

Of the picturesque arrangement of Greek buildings you have lately been able to judge from the drawings which illustrated Mr. Fergusson's interesting paper on the Erechtheum, and by some of the photographs on the walls, and neighbouring structures on the Acropolis of Athens. The bold crag, with the propylæa, the temples directly jutting out at the side, the elegant group of the Erechtheum on one side, and the Parthenon crowning the height, form a picture nowhere surpassed. This I have before described, but I shall mention another group of sacred edifices, which was but second to this, that of the temenos of the Temple of Minerva Polias at Priene. It was seated on a vast platform of masonry at the foot of a tremendous precipice, upon which stood the Acropolis. The temenos was entered by a sloping road through a propylæa, having a small temple with four columns on each front, not quite in the centre of the east side. On entering, the temple was seen on the left, the view of it partly concealed by a large heroön, ornamented with sculptured friezes; on the left there was a long Doric colonnade overlooking the sea, and about the enclosure, which probably was planted with trees, were placed seats of various forms, and pedestals with statues. Thus, there was no formality, but an arrangement that was pre-eminently picturesque, whether seen from the agora below or from the level of the temple itself.

That the Greeks showed a certain degree of ingenuity in construction is evident from two buildings—not temples—in which there was a departure from the usual form: these are the Lion Tomb at Cnidus and the Mausoleum of Halicarnassus. In both there were the same conditions to be fulfilled, viz., how to support a pyramid—the emblem of eternal repose—over a circular chamber at a time when the arch and dome with vousoirs were not known. The problem was solved in both cases by the use of the *tholus*, or vault in the shape of a beehive, consisting of a series of corbels arranged on a circular plan, and united at the summit by a huge keystone, in shape like the bung of a beer-barrel. This *tholus* was used in the Treasury of Atreus of Mycene, and I am able to illustrate it by a drawing that Professor Donaldson has kindly lent me for this occasion. The vault of the Lion Tomb was found partly in existence, and as this monument and the Mausoleum were not twenty miles apart, it is probable that one was imitated from the other. It is supposed that the Lion Tomb was erected B.C. 394, and that it was the prototype of the Mausoleum. This system of corbelling was also probably used to form a relieving arch over the beams at the fronts of the Mausoleum, which were more than 16 ft. in length, and which could not, without some such contrivance, have supported the superincumbent weight of the pyramid. So that, you see, that even when unusual construction was required the Greek architect was equal to the occasion.

Will you pardon a digression while I mention a curious circumstance connected with the *tholus*? When at Rome two years ago I visited the so-called Prison of St. Peter, which consists of two subterranean chambers under the Church of San Giuseppe, in Felegnami. When I reached the lower of these I found myself, to my great surprise, in the lower part of a *tholus*. Five or six courses were *in situ*, projecting gradually one above another, and pointing to a regular centre. Here, then, was the oldest building in Rome—an Etruscan treasury or sepulchre, evidently imported from Asia Minor, and clearly proving the Asiatic origin of the first colonists.

To return to the subject of Greek art. I have endeavoured briefly to show that there are certain qualities in Greek architecture which are peculiarly its own, worthy our study and imitation. By imitation I do not for a moment mean copyism; in fact, it was the copyism of Greek buildings by our predecessors which brought Classic art into that disrepute from which it is happily becoming free. Doric façades of engaged columns, with rows of windows between them, for churches and chapels, and gigantic propylæa for gateways to railway stations conveyed false impressions of the qualities of Greek art. Now, however, we are beginning to realise the fact that such qualities as grandeur, good proportion, refinement of mouldings, and picturesque arrangement were amongst its characteristics; to allow that, whether we make use of the Classic or Pointed styles, these qualities are essential to good architecture, and to perceive that if we invent a style of our own—an architecture of the future—it ought, in a great measure, to be based upon principles that comprehend these characteristics of Greek art.

THE PROPOSED MUSEUM OF SCIENCE AND ART.

In the House of Commons on Monday, in reply to a question put by Mr. A. M. Sullivan as to the promised establishment of a National Museum and Science and Art Department for Ireland, Lord Sandon said—No one has a better right than the honourable gentleman to ask a question on the subject of science and art for Ireland, as he has for a long time taken a most useful interest in this subject. The Government regrets that probably another year must elapse before carrying out their proposal to establish a science and art museum in Dublin; but when it is remembered that the establishment implies an expenditure of something like £100,000 from the imperial exchequer in aid of this large undertaking, which, we hope, will be an important addition to the scientific and artistic advantages of Dublin, it can hardly be expected that a matter of this magnitude should be settled very rapidly. A good deal of misapprehension has existed on the subject; but I believe that these misapprehensions have been removed by the speech made by the Lord President in another place. The plan is undoubtedly different from the proposal of her Majesty's Government in 1868, but it differs in so far as a commission, composed of the most distinguished members, reported against the proposal of 1868. It only varies in a minor degree from the plan proposed by the hon. member for Louth and the hon. member for Dublin in 1875, and is in accordance, in my opinion, with the speech of the Chancellor of the Exchequer on the same occasion, in consequence of which the resolution of the hon. member for Louth was withdrawn. I have a good hope that by further communication with the different parties concerned in Dublin we shall be able to confer what we believe will be a great benefit upon that city; but we shall not be justified in making the proposed large expenditure of public money, which I need hardly say the Exchequer will not readily defray, unless we were quite satisfied that we had a thoroughly satisfactory scheme. I may, however, say that it is the intention of the Government to bring in a bill next session to provide for the site of the new institution.

NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.*

BEFORE taking up the thread of the theatrical history of our Dublin theatres, we will here give some more brief particulars of the lives and associations of a few additional dramatic authors, whose names have as yet been only incidentally alluded to.

Sir Richard Steele, born in 1676, in Dublin, claims at our hands particular notice, though, unlike other prominent dramatic writers, he was no actor, yet his life was full of the most varied actions—alternating triumphs and bitter reverses, bright sunshine and deep shadows. The father of our native dramatic author was a member of the Irish Bar and secretary to the Duke of Ormond, and through the influence of the latter young Dick Steele was sent to the Charter House School, London. A branch of the Steele family at one time held considerable property in the County Wexford. In 1692 Steele was admitted a post-master in Merton College, Oxford, but during his time here little more is known than he is said to have composed a drama, which he afterwards destroyed. He left the university without taking any degrees, and, like Farquhar and Coleridge, we find him next entering the army, but whether through necessity or inclination we know not. Entering as a private soldier in the Horse Guards, this step lost him the friendship of his family and the succession to his Irish estate. He was well liked by his brother soldiers in the army, from his flow of animal spirits, and he soon obtained an ensign's commission in the Guards. Notwithstanding the temptations of a military life, we now find him writing a somewhat remarkable work, partly, we believe, intended for his own guidance, entitled "The Christian Hero," printed in 1701. At this time Steele was secretary to Lord Cutts, and by the latter's interest obtained a company in Lord Lucas's regiment of Fusiliers.

Steele's first play "The Funeral, or Grief a la Mode," published in 1702, is reckoned one of his best comedies. The language of this play is lively and the satire pointed. This play took the fancy of William III., which led him to inquire after the author, on whom he proposed to bestow some mark of favour. The death of the king, however, led to disappointed hopes. Steele was appointed a Gazette writer early in Queen Anne's reign, for which preferment he was indebted to his friend and former schoolfellow Addison, who had recommended him to Lord Halifax and the Earl of Sunderland.

Steele's next play (in which he was said to have been assisted by Addison), "The Tender Husband," was acted with great success in 1704. "The Lying Lover," which succeeded in 1706, was a failure, and, according to the author himself, it "was damned for its piety." In his "Apology for Himself and His Writings," Steele gives some particulars as to his reasons for writing this play. The rebuff that this play met seems to have given Steele a dislike to the stage, and turned his thoughts into another channel. His humour was not long in finding vent, for we find him in 1709 publishing the first number of the celebrated "Tatler," the pioneer of the somewhat more famous "Spectator." The "Tatler" was commenced in concert with Swift, and, as an early eighteenth-century periodical publication, it did a large amount of good by the essays that appeared in it on various subjects, but mostly with a view to reform the manners of the times. The difference between the "Tatler" and the "Spectator" lay in, that the former included politics, and the latter omitted them. Steele obtained in 1710 the commissionership of stamps, likely as a reward for his political services; though his patron, the Duke of Marlborough, went out of office in 1711, Steele still retained his place, but he ceased to use his pen on political subjects. The "Tatler" was discontinued this year, and the "Spectator," in conjunction with Addison, started. The "Guardian" succeeded

in 1713, and ceased in the same year. In the latter publication Steele waxed warm in politics, and attacked the ministry. Anticipating events, Steele flung up his appointment, and gave up his pension which he had paid him by the queen as a servant of the late Prince George of Denmark.

Next came Steele's celebrated "Guardian," upon the demolition of Dunkirk, published in August, 1713, and the parliament being dissolved the next day, the "Guardian" was followed by a number of other strong political tracts. Steele, on the meeting of parliament, took his seat in the House of Commons, having been returned for the borough of Stockbridge, in Dorset; but he was expelled in a few days as being the author of "several scandalous and seditious libels." After this our author embarked in several literary speculations, and, among the rest, published proposals for writing the history of the Duke of Marlborough, wrote "The Spinster," and started a paper called "The Reader."

When George I. ascended the throne, Steele again came into favour, being appointed surveyor of the stables at Hampton Court, and put into the commission of the peace for Middlesex. In this year (1714) he procured a licence to be the chief manager of a company of comedians, and through influence got this licence exchanged for a patent, appointing him a governor of the same company for life. He was next chosen as a member for Boroughbridge, in Yorkshire, and obtained the honour of knighthood in April, 1715. In the following August, Steele obtained five hundred pounds from Sir Robert Walpole for special services. In 1717 we find him visiting Scotland as one of the commissioners for inquiring into estates forfeited by the late rebellion, and while engaged in this inquiry he tried hard in endeavouring to effect a union between the Scotch and English churches. Next year Steele buried his second wife, by whom he had obtained a large fortune and some estate in Wales. Good fortune, as far as money went, seemed to alter his circumstances, but little for the better. Money disappeared nearly as fast or faster than it came, and our author was always experiencing a succession of financial difficulties. About this time one of Steele's expedients for raising money was by the establishment of a "fish-pool," for which he obtained a patent. He proposed to carry fish alive to the market—a thing quite feasible at present with steam communication, but rather difficult on a large scale in Steele's time. His project failed, and involved him in difficulties. In 1719 he opposed the Peerage Bill, which lost him his licence for acting plays, and rendered his patent useless. He had, however, still the courage to warn the country against the disastrous South Sea scheme, which brought the country to nearly a state of bankruptcy in 1720.

In January, 1719-20, when out of favour at court, he published the first number of a paper entitled "The Theatre," intended to come out twice a week. In this periodical he assumed the name of Sir John Edgar, and was fiercely attacked by Dennis in a very abusive pamphlet entitled "The Character and Conduct of Sir John Edgar." Steele made a suitable reply.

In 1721 our author was restored to his office in Drury-lane, of which he was deprived for opposing the Peerage Bill. In this year he brought out his celebrated comedy of "The Conscious Lovers," which met with a wonderful success. In addition to the receipts besides the profits accruing from the sale of the copy, Steele was made a present of a purse of £500 from the king, to whom the play was dedicated. Albeit all this income, in a short year after our author's circumstances were nearly as bad as ever. He sold his share in the play-house, and shortly afterwards commenced a law-suit with the managers, which, in 1726, went entirely against him. In the midst of these succeeding misfortunes an execution was put on his house. Poor Steele retires to a small house on Haverstock-hill, near Hampstead, where he is occasionally visited by Pope and other

members of the Kit Cat Club. He is taken in their carriages to their place of meeting, and he enjoys himself as well, perhaps, as one can do in his position. Reduced in circumstances, and beyond the power of retrieving his loss, he sighs over the past, and is seized with a paralytic disorder. Impaired in understanding, broken in health and fortune, he retired to his seat in Langunnor, near Caermarthen, in Wales, where he died on the 21st September, 1729. By his own desire he was buried in the church of Caermarthen.

Steele had three children by his second wife, and at his death one daughter was living, who was married in 1739 to the Hon. John Trevor, one of the Welch judges, afterwards Baron Trevor, of Broham. Besides the plays already mentioned, Steele wrote two other comedies, which were not printed, entitled "The Gentleman" and "The School of Action." Steele did many kind acts throughout his life to actors and others, but he was too prodigal and careless of self.

Although connected with the history of the English Stage and the London theatres, we have no particular mention of Steele recorded in relation to our Dublin houses, save the incidental ones of his plays being acted here. Like Swift, Tickell, Sheridan, Parnell, Addison, and Delany, Steele was one of the distinguished literary characters in the early part of the eighteenth century who resided on the "classic" banks of the River Tolka at Glasnevin.

The name of Susannah Centlivre, both in her character of author and actress, calls for some notice at our hands. There exists some doubt as to the place of her birth, but the weight of opinion points to her having been born in Ireland. We are not certain that we would lose much had we to surrender her, although she was a somewhat remarkable woman, and possessed of considerable literary talent. Her dramatic writings, according to some critics, are marked with considerable elegance and vivacity. Yes, they are full of bustle, business, and a certain kind of amusement, and were popular in an age when the standard of morals on the stage, or off the stage, was not high.

Susannah Centlivre, perhaps, can be excused much when we consider the surroundings of her early life, her struggles, and temptations. It is presumed she was born in Ireland about the year 1680. Her father was a Mr. Freeman, of Holbeach, in Lincolnshire, who was a dissenter. Being a zealous parliamentarian he was persecuted at the time of the Restoration, his estate confiscated, and himself obliged to take refuge in Ireland. The family of his wife was also subject to similar persecutions for their political principles. How long the father of the future actress and authoress remained in Ireland we know not. Her father died before she was three years old, and she lost her mother before her twelfth year. In some accounts we have her father surviving her mother for several years, and marrying again before his death. We have also a romantic story of young Susannah in her very early years, being picked up by a Cambridge student on the way side, and brought into college in male attire, where it is said she resided for a considerable time. After this we have her first marriage stated to have taken place when she was only sixteen years of age, to a nephew of Sir Stephens Fox. This gentleman did not live with her more than a year. Her second husband appears to have been an Irishman from his name; but Mr. Carroll, who was an officer in the army, lost his life in a duel in about eighteen months after their marriage, so Susannah became a widow for the second time. It is stated that she sincerely loved Carroll; and, having been obliged to take up the pen shortly afterwards to gain a living, some of her first poetical effusions appeared under that name.

Her first play, the "Perjured Husband," appeared in 1700. Out of nineteen plays she wrote subsequently, this was the only tragedy: the rest, with the exception of two farces, being comedies. For a short period

* See ante.

she took to the stage as an actress, but her success was not very marked. In 1706, however, her personal charms scored a triumph in performing the part of Alexander the Great in Lee's "Rival Queens" at Windsor. She wounded the heart, and captivated the person of one Joseph Centlivre, the principal cook to her majesty. Mrs. Carroll soon after became Mrs. Centlivre, and we are led to believe passed the rest of her life happily with her husband. Her death took place in Spring Garden, Charing Cross, London, in December, 1723, and she was interred in St. Martin's-in-Fields.

Susannah Centlivre was known to many of the wits of her time, and among those more intimately acquainted with her were—Sir Richard Steele, Rowe, Farquhar, Dr. Lewel, Budgell, and others. She received many tokens of esteem, and secured "patronage from the great," for in addition to her talents, she had a fair share of what is called beauty. Among the best of Mrs. Centlivre's plays is the "Bold Strike for a Wife," the "Busy Body," and the "Wonder." These were often acted on the boards of our Dublin theatres up to the close of the last century and after. Her play of the "Gamester" continued also for a long period an acting play in our theatres.

In a notice of her life in the "Biographia Dramatica," it is said when "we consider her as an absolutely self-cultivated genius, it is astonishing to find traces of so much reading and learning as we meet with in many of her pieces, since for the drawing of the various characters she has presented us with, she must have perfectly well understood the French, Dutch, and Spanish languages, all the provincial dialects of her own, and somewhat even of Latin, since all these she occasionally makes use of; and whenever she does so, it is constantly with the utmost propriety and the greatest accuracy."

Other critics speak of her in similar terms, ranking her as an "illustrious female author," while they are obliged at the same time to condemn some of her plays for their indelicacy. Susannah Centlivre imitated Mrs. Aphra Behn to a great extent in style and taste in the composition of her dramas, but she had not such a licentious imagination. Her plays are mostly a series of intrigues, with all the consequent machinery and surroundings of young rakes and young ladies, old guardians, and others, that go to make up the plot and counter plot of doings, bad, good, and indifferent.

EMPLOYERS AND WORKMEN— ENGLAND AND SCOTLAND.

DISPUTES in the building trades still continue in the sister kingdom, though greatly diminished in number.

At Newcastle-on-Tyne the strike of the operative painters has come to an end, the men having failed, after thirteen weeks' resistance, to obtain their demands. Work is resumed subject to a set of working rules to be settled hereafter.

At Chester the strike in the building trade still continues, with little sign of settlement.

At Sheffield the strike of the masons has terminated. The men have obtained an advance equal to about 2s. per week, and have resumed work.

At Willenhall the lockmakers resumed work on the 19th ult. They asked for an advance of 10 per cent. in their wages, but masters and men have now decided to refer the question in dispute to arbitration.

At Edinburgh the operative joiners held a mass meeting, and, acting in concert with their brethren in Glasgow, have resolved to give them their moral and material support.

At a meeting of the plumbers of Edinburgh a communication was read from the masters' association in reference to the demand of the operatives for an advance of 1d. per hour. The masters offered to compromise by granting 3d. per hour additional on the present rate of 7½d. After some discussion this offer was put to a vote and carried by a majority, and accepted.

At Glasgow the masons have obtained an advance from 8½d. to 9d. per hour, and a strike has been avoided. Three months' notice in future is to be given on either side before any alteration can be effected. The joiners fail to see the reason why they should be refused their demand now that the masons and bricklayers have obtained theirs. Deputations or "pickets" were therefore appointed by the joiners' body to keep vigilant watch on all "suspicious jobs" during the Fair holidays. The building trade at present is brisk in Glasgow.

At the Princess Royal Pits, Forest of Dean, the colliers were discharged in a body without notice on the 28th ult. Brookhall Ditches Colliery, at which 100 men are employed, will be closed on to-day (1st August) as an alternative to the men refusing to accept a 10 per cent. reduction.

L A W .

CIVIL BILL COURT.

THE EARLSFORT SKATING RINK.

Fahie v. Strickland.—This was an action to recover £25 for fees and commission alleged to be due by defendant to plaintiff, who is an agent having an office in Nassau-street, and who alleged that he had been engaged by Mr. Strickland, a promoter of the "Dublin Skating Rink," Earlsfort-terrace, to procure subscriptions, on which he was to receive commission at the rate of 5 per cent. A Mr. Power subscribed £500, and on this plaintiff claims £25 as his commission. It transpired that defendant would accept only £260, and denied that he had ever employed plaintiff to canvass for him. He promised to pay plaintiff commission on £1,000 which he was to obtain from a lady, but which he failed in getting. The Recorder gave a decree for £10, as he considered plaintiff had been badly treated. It is probable we shall soon hear more as to the workings of these wonderful enterprises called "Skating Rinks."

CLAIM FOR MALICIOUS INJURY.

At the Galway assizes, Mr. Michael O'Brien, of Ballinasloe, contractor and builder, claimed £1,500 compensation for the malicious burning of large workshops, premises, sheds, and materials. The application had been rejected at the presentment sessions, and now came before a petty jury under the 138th section of the Grand Jury Act. It appeared that the fire took place on the 22nd November, 1875, in the claimant's premises, situate near Dunlo-street, in the town of Ballinasloe. Evidence was given of two strikes among the employes in the year 1873, and in 1875, about the time of the conflagration. The claimant alleged that the burning arose out of those strikes, and was ascribable to some malicious person connected therewith, and as evidence relied upon the fact that the fire originated in an external portion of the roof, covered with tarred boards, and which was peculiarly susceptible of ignition. The ratepayers, who traversed the presentment, produced several witnesses to prove that the fire originated in the interior of the premises, and was attributable to the carelessness of the workmen who were engaged on the day in question. The jury found that it was malicious, and ultimately found for the claimant a sum of £700 and no costs.

WORDS OF COUNSEL.

It is a great error for a young workman to suppose, because he has mastered enough of his trade to be considered a good hand, and now contemplates starting for himself, that all he has to do is to hang out a sign and people will thereupon rush to employ him. Every man has got to build up two things—first, his education; second, his business. There is no royal road to either. Because a workman has his trade education, it does not at all follow that he can command trade. True, he may have his reputation, and through

it may obtain employment under others with ease; but in starting for himself, he should remember this distinction, that he becomes the servant not of one or of a dozen persons, but of the whole public; and for him to prove to the public, who knows nothing about him at first, that he is worthy of employment, takes time and patience. Now, it is usually the case that the young workman has no large amount of funds wherewith to maintain himself during that period of enforced idleness which must follow before sufficient business for his support is secured by him. To expend that amount in high rent, or in tools other than those absolutely necessary, or for costly fittings to the shop, is excessively fool-hardy and rash. He does not know how long he must wait before his period of independence will arrive, and it is therefore the commonest prudence to husband every resource, under the assumption that that period is a very long time in the future. The best policy, then, is to take a small room, just large enough for the purpose of the work to be done, and for the workman not to attempt anything "in all its branches." We never fancied that addition to a sign on a small shop; in ninety-nine cases out of a hundred, it is a misstatement of the capabilities of its owner. Better begin with the specialty that can be done best, and then, as business increases, add on the branches. Get a reputation established for doing one thing extraordinarily well, and it will go a long way towards extending a business to other affairs when the proper time arrives.

Never slight a job, no matter how small and trivial it may appear. People form estimates of ability from small things very frequently, arguing that a workman who attends to minutiae carefully will be likely to produce more important work complete in all its parts. Besides, the favourable impression conveyed by some little action has laid the foundation of many a man's subsequent future.

Be satisfied with small though just profits. Because you perhaps can do a job a shade better than any one in the vicinity, do not be exorbitant. We heard an unpublished story of the great drygoods merchant, Stewart, recently, which is just to the point here. He said he never took advantage of the market but once, and then he had a large stock of a very superior fabric, not elsewhere found. The temptation was strong to run up the price, and he yielded. Despite the high figures, every yard was sold, and he realised two or three hundred thousand dollars. "I thought this a good bargain at the time," he said, "but I afterwards discovered that it cost me two or three millions. I found that people said: 'Stewart has first-class goods, but you've got to pay good prices for them.' It took all my efforts to dispel that impression, and I believe it affected all my future business operations."

We would counsel young workmen to be saving, not only of money but of brains. It is a great deal easier to spend money than to get it, and it is easier to forget than to learn. We have great faith in savings banks when they can show a good surplus; and in this respect we would advise workmen to avoid those institutions that offer remarkable inducements in the way of interest, and to deposit their funds in banks which pay less, but which are firmly established. Money at reasonable interest increases wonderfully fast, and nothing can make a man feel more independent of fortune than a neat sum, safely stored away, which can be drawn upon in times of emergency.

To paraphrase a well-known axiom, "The price of knowledge is eternal study." The world moves. Because you mastered a subject ten years ago, it does not follow that you know all about it now. A person that expects to keep abreast with the times, and especially one engaged in a mechanical pursuit in which improvements are constantly made, must read, or fall in the rear. Brains can be saved by reading, just as money can be by putting it in the bank. Study scientific and practical books and papers an hour a day; and the accumulation of money at

interest will not be nearly so rapid as the growth of your knowledge. We believe more can be learned in half an hour's intelligent study, followed by a thorough thinking over of the subject, than in six hours' steady application. The study can be done out of working hours; the thinking you can do at the lathe or while performing any job which requires no special skill.

Honour your calling, and it will honour you. It is a thousand times better to be a successful mender of pots and pans than an unsuccessful mender of people's bodies; better to be able to draw a straight forging than a bad brief; better to be able to compose good mortar than a poor sermon. There are plenty of examples of good workmen becoming great lawyers, and inventors, and senators, and presidents; but very few of poor doctors, or attorneys, or clergymen, transforming themselves into anything useful at all. It is a pretty safe rule to believe that in this world sooner or later every man finds his proper level; it is only a question of starting low and working slowly upwards, or starting too high and coming quickly down. The one is usually graceful, the other disgraceful; and there is no human task half so hard as regaining a lost position, nor one in which honest work more often fails to command success.—*Scientific American.*

CORK DISTRICT LUNATIC ASYLUM.

SINCE we last recorded the misunderstandings between the board and Mr. Atkins, the architect, the latter has resigned, having accepted an offer of a sum of money in addition to his fees of 2½ per cent. Mr. Atkins's resignation and the death of Mr. O. C. Edwards, C.E., having created a vacancy, the board advertised that they would, at their meeting on the 21st ult., appoint an architect to carry out the proposed works. There were several applications, but no appointment was made, owing to there being a tie between Mr. William H. Hill and Mr. S. Kirkby, Cantab., County Surveyor. The board have since advertised that they would make the appointment at their next general meeting on Friday the 4th inst.

THE ADELAIDE HOSPITAL, PETER-STREET.

A MORNING journal announces that "Mr. J. Hargrave Bridgford, of 66 Lower Mount-street, has been appointed architect to the hospital, subject to the various conditions contained in the report of the Building Committee."

ECCENTRIC WILLS.*

THE papers of the last century abound in accounts of eccentric disposals of property. We quote one instance which has just attracted our eye in the *Sun* newspaper, for Friday, February 3, 1797:—"The following circumstance is as true as it is remarkable: A few months ago, two gentlemen, who had been left executors to the will of a friend, on examining into the property left by the testator, found they could not discharge the legacies by some hundreds of pounds. Astonished at this circumstance, as the deceased had frequently informed them he should have more than sufficient for that purpose, they made the most diligent search possible among his papers, &c., and found a scrap of paper, on which was written, 'Seven hundred pounds in Till.' This they took in the literal sense of it; but as their friend had never been in trade, they imagined it singular he should keep such a sum of money in a till: however, they examined all his apartments carefully, but in vain, and, after repeated attempts to discover it, gave over the search. They sold his library of books to an eminent bookseller, near the Mews, and paid the legacies in proportion. The singularity of the circumstance occasioned them frequently to converse about it, and they recollected

among the books sold (which had taken place upwards of seven weeks before) there was a folio edition of 'Tillotson's Sermons.' The probability of this being what was alluded to by the word 'Till' on the piece of paper made one of them immediately wait upon Mr. —, who had purchased the books, and ask him if he had the edition of Tillotson which had been among the books sold to him; on his reply in the affirmative, and the volumes being handed down, the gentleman immediately purchased them, and, on carefully examining the leaves, found bank-notes, singly dispersed in various places of the volumes, to the amount of seven hundred pounds! But what is perhaps no less remarkable than the preceding, the bookseller informed him that a gentleman at Cambridge, reading in his catalogue of this edition to be sold, had written to him and desired it might be sent to Cambridge, which was accordingly done; but the books, not answering the gentleman's expectations, had been returned, and had been in the bookseller's shop till the period of this very singular discovery."

THE LAMPS ON ESSEX BRIDGE.

TWELVE ornamental lamp standards have been placed on the balustrades of Essex Bridge. At the base of each pillar are two sea-horses, rampant. The pillar itself is of uniform tint with that of the bridge, and is gilt. The lantern is hexagonal in shape. We understand the work has been turned out by Messrs. Strong and Son, of this city.

COUNTY SURVEYORS' SALARIES.

AT the recent assizes for the County Kildare an application to the grand jury was read from Mr. J. H. Brett, county surveyor, asking for an increase of salary. The grounds upon which he based his application were, that his salary was only now the same as it was when he was removed on promotion from the western division of the County Limerick to Kildare; that his mileage of roads was 1,100 as compared with 780 miles in Limerick, and the supervision of public moneys £19,000 as compared with £9,000.

Mr. Hendrick asked what was the present salary of the surveyor?

Mr. Brett—£400. The salary that ought to attach to my office is £500, as Kildare is a second-class county, and Limerick only a third-class one.

Foreman—What was the salary upon which you came in here?

Mr. Brett—£350.

Foreman—Is £500 a year the maximum salary in a second-class county?

Mr. Brett—It is.

Mr. Trench—I think it is a rather unfortunate time Mr. Brett has chosen to bring this matter forward. We have just had the report of the committee appointed to consider the question of his duties in regard to the county buildings. I think I am right in stating that at the time the last increase in his salary was made, it was done on an understanding that his duties were to extend to all the county public buildings. Subsequent to that increase, there was some expenditure at the county infirmary, and Mr. Brett decidedly objected to give the necessary plans, or to make himself responsible in any way to the governors of that institution, who were the only persons that could carry out the alterations with the grand jury. That led to the appointment of this committee, and the information presented to the committee now is that the infirmary is not legally and strictly under Mr. Brett's superintendence. The consequence is, that the governors must pay an architect for any future works that are to be done. Before we grant the increase, therefore, I think we should wait and see what additional expense will be thrown on the county by the governors having to adopt that course.

Mr. Sweetman, referring to the schedule, said the County Surveyor's salary for the year amounted to £674.

The Foreman reminded Mr. Sweetman

that the £674 included the payment of three deputies.

On a motion for the increase of salary being put, it was declared lost.

THE Assistant County Surveyors of the Queen's County memorialised the Grand Jury asking for an increase of £10 yearly to their present salaries of £70. Mr. Young argued that all public officers had had within the last few years their salaries increased. Mr. Stubber thought the question resolved itself into whether or not they could get men to do the business for the present pay. Mr. Kirk—You could easily; and if you advertise you will get plenty to do it at £30 a year, but that would be false economy. Colonel Carden—I think the proper thing would be to do away with deputies altogether. What we ought to do now is to adjourn the consideration of this until next assizes, to see whether Mr. Scott's resolution will throw any additional duties upon them. Mr. Smyth not having pressed his motion, Col. Carden's suggestion was unanimously agreed to.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION.

THE proceedings of the Congress for 1876 have been sketched:

August 14th.—Reception by the Earl of Mount-Edgumbe at Cotehele on the Tamar. Dinner at Sandoe's Royal Hotel, Bodmin, after which the company will adjourn to the Guildhall, where the mayor and corporation will receive the president and association, and the Earl of Mount-Edgumbe deliver the inaugural address.

15th.—Excursion to Tintagel, driving through Pancarrow grounds and camp; then on to Lanteglos Rectory, where the Rev. J. J. Wilkinson will receive and entertain the members at luncheon, and conduct them over the church, &c. After, Tintagel Church and Castle, Camelford, will be visited, if time will permit. Evening meeting at Bodmin.

16th.—Excursions to Restormel Castle, Lanhydrock, Lostwithiel, and St. Neot's Church, where Mr. Loftus Brock, F.S.A., will describe the painted windows and architectural features of the church. Evening meeting at Bodmin.

17th.—Excursion to Launceston. A *conversazione* will be held at Bodmin Guildhall.

18th.—Excursion by train to Truro, to the Royal Institute of Cornwall. Reception by the president and members, and further excursions to several places of interest in the neighbourhood. Train to Penzance.

19th.—Excursions. Passing several monoliths in fields adjacent to the road, arrive at Boscawen Un—Stone Circle, thence to Sennen Church and the Land's End. Luncheon, thence to Buryan Church, Rosemodress Circle, Boleit monoliths, and underground structures. Evening meeting at the Guildhall, Penzance.

21st.—To Chywoone Castle and cromlech, Bosullo hut circles. Luncheon at Chywoone. Then proceed to St. Just Church and inscribed stone, Chapel Enny, cave dwellings and barrow. Evening meeting in Penzance Guildhall.

22nd.—Excursion to St. Michael's Mount, where they will be received by Sir John St. Aubyn, Bart., M.P.; thence to Chysanster, hut village, Bosphorthennis Beehive-hut, Lanyon cromlech. Closing meeting of the Congress at Penzance.

THE BANK OF IRELAND.

AMONGST works of improvement lately carried out at this building is the refitting of its spacious cash-office. The new desks and counters are of polished mahogany, and occupy a much larger space than the old ones. The floor is laid in slabs of polished marble (white and Cork red alternately) 12 in. square, laid diamond-wise. It has been supplied and laid by Messrs. Sibthorpe and Son, Great Brunswick-street. This firm has lately supplied a communion rails in marbles for the Chapel of Trinity College, and which has given every satisfaction to the Board.

* From the *Athenaeum*.

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

At the present time, when the mobilization of the army is attracting some attention—although we have peace at home instead of war—it will be interesting to look back nearly three hundred years to see how the troops of “good Queen Bess” were provided for when drafted for active duty in Ireland. Sir John Harrington, whose letter in 1599 we have quoted in a former note, states that her majesty’s captains and soldiers were well provided for in summer heats and winter colds. No doubt of it, for some of these captains took what is called “French leave” in providing for themselves. As to pay, we are told every captain of a hundred footmen received weekly, on a Saturday, “his full entertainment” of twenty-eight shillings; every lieutenant, fourteen shillings; ensigns, seven shillings; sergeant, — surgeon [barber-surgeon, perhaps], drum, and fife, five shillings pay, by way of impress; and every common soldier, three shillings, “delivered to all by the pole weekly.” To the four last lower officers, two shillings weekly, “and for every common soldier, twenty pence weekly is to be answered to the full value thereof, in good apparel of different kinds, part for winter and part for summer, which is ordered of good quality and stuff for the prices, patterns whereof must be sent to the lord deputy to be compared and prepared.”

The apparel of an English officer in winter, in 1599, in Ireland, consisted of a cassock of broadcloth with bays, and trimmed with silk lace, at a cost of twenty-seven shillings and seven pence; a doublet of canvas with silk buttons, and lined with white linen, fourteen shillings and five pence; two shirts and two bands, nine shillings and six pence; three pair of Kersey stockings, at two shillings and four pence a pair, seven shillings; three pair of shoes of neats’ leather, at two shillings and four pence a pair, seven shillings; one pair of Venetians of broad Kentish cloth with silver lace, fifteen shillings and four pence. The summer apparel of the officer was: two shirts and bands, nine shillings and six pence; two pair of shoes, four shillings and eight pence; one pair of stockings, two shillings and eight pence; and a felt hat and band, five shillings and five pence.

Coming to the clothes of the common soldier, we find his apparel in winter consisted of: a cassock of Kentish broadcloth lined with cotton and trimmed with buttons and loops, seventeen shillings and six pence; a doublet of canvas with white lining, twelve shillings and six pence; a hat cap coloured, seven shillings; two shirts of Osnabridge holland and bands, eight shillings; three pair of neats’ leather shoes, two shillings and four pence each—seven shillings; three pair of Kersey stockings, eight shillings; one pair of Venetians of Kentish broadcloth with buttons, loops, and lining of linen, thirteen shillings and four pence. The summer apparel of the common soldier was: two shirts of Osnabridge and two falling holland bands, seven shillings; two pair of neats’ leather shoes, four shillings and eight pence; one pair of stockings, two shillings and eight pence; and a hat cap coloured, three shillings. “Thus, friend Thomas,” quoth Sir John Harrington in concluding his letter, “her Majesty with wonted grace had graced our bodies, and may Heaven’s grace cloath her in everlasting robes of righteousness, and on earth peace to her who always sheweth good will towards all men.” Sir John Harrington knew how to play his cards well, not only as a poet, a wit, and a satirist, but as a courtier, and hence he was remembered by the sovereigns he served.

Sir John Harrington, while in the service of his Queen and her Deputy the Earl of Essex in Ireland, seems to have taken pretty good care of his person, and to have escaped without a scratch. An extract from his letter will show this. He writes—“I have reason to thank God very greatly that among so many as have been hurt and slain where I have been, and some shot even in the very

ranks I was of, I have escaped all this while without bodily hurt. I protest there is much rather greater cause to thank God who had kept me so long in bodily health at Roscommon, where not few as sixty died within the walls of the castle in which we lay, and some as lusty men as any came out of England. In the camp, where drinking water, and milk, and vinegar, and aqua vitæ [plain potheen or whiskey], and eating raw beef at midnight, and lying upon wet green corn oftentimes, and lying in my boots with heats and colds, made many sick, yet myself (in a good hour be it spoken, and a better heard) was never sick, neither in the camp nor the castle, at sea or on land.” Sir John Harrington said he informed himself well of the whole state of the country by observation and conference, and he reckoned that the value of the knowledge he had obtained during his military service in Ireland “worth more than half the three hundred pounds this journey cost me.” After events proved that his service in Ireland was worth many times more to him than the cost of his expenses, for it brought him honours for which he aspired.

We give below a curious inventory of goods and chattels belonging to one John Busvargus, of St. Just, Cornwall, “taken and proved by Martin Wearne and John Chinchall the 11th of April, Anno Domini 1638.” We would like to see a similar document produced illustrative of the social position of an Irish gentleman and his domestic surroundings and fixtures in Ireland at the same date. The old Cornish race were undoubtedly Celtic in habits to a great extent, and the language of the people was certainly a dialect of the Celtic. This dialect, we may add, has only become extinct within the present century. Now for the inventory of Busvargus:—

	£	s.	d.
Imprints—His apparel	16	13	4
Item—His bible and other books	0	6	8
Item—The table board, joynit stools, chayres, carpets, and coshens in the hall	2	2	4
Item—His rings and sitters	0	15	6
Item—The table board and bed in the parlour	1	6	8
Item—The table board, coberets, and two chests over the dayrie, with two little trunks and two small chayres	4	16	8
Item—The bedstead and furniture	4	0	0
Item—Woolen clothes and wool	8	0	0
Item—The bedstead with the furniture in the inner chamber, with coberets and trunks	5	0	0
Item—A chest with the linen, bed sheets, table cloths, napkins, and other linen	6	13	4
Item—The stead bed, with the truckle bed, and their furniture, over the hall	3	0	0
Item—One dozen and a-half of pewter, and three canstickles, and two small flagons	2	0	0
Item—For butter, cheese, and other household provisions of meat kind	1	0	0
Item—The bedding, with the furniture, over the parlour	1	10	0
Item—The mill implements	0	5	0
Item—2 streamers furnished [these were articles used for streaming tin, a process known in the mining districts]	2	0	0
Item—A fowling piece	0	13	4
Item—The poultry	0	8	0
Item—Bottles, jugs, dishes, and other clomb [earthenware]	0	10	0
Item—A pan, 1 kettle, 1 brass crock, and 1 iron crocke and skillet	6	6	8
Item—An old brewing keeve, 4 godysets, other old tubs and pieces of wood	1	6	8
Item—The studies [query], shovels, and other iron-work	0	10	0
Item—The corn in the mow-hay and hayrick	16	0	0
Item—12 kine	26	0	0
Item—6 steers	10	0	0
Item—1 heifer and 3 yearlings	3	0	0
Item—His bounds [tin bounds] and tin stuff	6	0	0
Item—1 little bull and sow	24	0	0
Item—1 pair of paniers and rops	1	10	0
Item—1 pair of paniers and rops	0	5	0
Item—2 sheep and 2 lambs	0	10	0
Item—Other things forgotten, and not yet come to memory	0	10	0
Sum total, £141	9	8	

By me, John Chinchall,
Martin Wearne.

John Busvargus, of St. Just, had not a very extensive library. No hounds or hunters appear in his inventory, and there is an absence of carts, ploughs, and harrows. He appears to have brewed and ground corn, from the mention of his mill implements. A fowling-piece denotes that he shot at something, but whether at bird or burglar we are left to guess. There is no musical instrument of any kind in the inventory, or a spinning-wheel to show the tastes of the household. John Busvargus may have angled like Isaak Walton, but he must have parted with his fishing-tackle before his inventory was

drawn out. His tastes were no doubt simple, although he was fond of raising “tin.” It is remarked that all Cornish men are cousins; and one of the descendants of John Busvargus wrote several years ago that every member of this family for seven generations married into houses situated within thirty miles of their own seat, and generally within ten miles. We have had a counterpart of this system of intermarriages in Ireland among the inhabitants of the baronies of Forth and Bargo, in the County Wexford. These latter people used seldom to go outside their own district to form an alliance. Vallancy, the antiquarian, towards the close of the last century wrote an account of the then habits and customs of this olden settlement in Wexford, which appears, we believe, in one of the first volumes of the Transactions of the Royal Irish Academy.

We have once read somewhere, but we forget our authority, that the architects of ancient Rome were obliged to warrant their private buildings for ten years, and their public ones for fifteen. Further, that every accident arising from bad construction during these periods was to be made good by them or their heirs. If they were unable to make the necessary repairs they were whipped, shaved and banished. Some such like provisions are necessary in the present day, when buildings, public and private, are “run up,” to use the common phrase, and fated often to drop down or asunder as quick. Stable and solid, as well as healthful, private buildings are quite as indispensable as good public buildings. Greater evils arise through bad construction in domestic residences than in public ones, and for one public building erected there are thousands of private residences which are certain in these days to become the cradle, the hospital, and the grave of many of their inmates. The law of ancient Rome would be a very wholesome and salutary one if revived in our day, with some modifications. If a proper Building Act was in force, and unprincipled builders flagrantly acted in violation of its provisions, they should be made to take down every brick or stone, as the case might be, from the parapet to the basement, and reconstruct the edifice at their own cost, if possessed of sufficient means. Refusing to do this, penal servitude for a certain time would not be too severe a penalty. If through want of means the unprincipled “Jerry” was unable to make amends for his “scamped” work, he should be held amenable by an exaction of a certain amount of time and labour in the proper reconstruction of the work he scamped. The ancient law of Rome might also be usefully applied to some modern restoring architects whose works of restoration are little short of works of positive Vandalism and destruction. To be sure, now-a-days every country rector or new-fledged curate is inspired with a mania for “collections” in aid of restoring one parish church or another. The church in question may be a gem or it may be positive rubbish; but the words “Church Restoration” sound grand, and appeals are made in the pulpit or the local newspapers. A fund is created, and an architect is found. Architects, of course, must live, and the taste of the rector or curate must be satisfied. Woe is me! If the church is a good specimen of architecture, ten chances to one it is utterly destroyed, in an artistic sense; if it be a poor example it is likely to be made no richer. What is rotten or bad inherently cannot be mended by a restoration. You may ornament or gild corruption, but the mass will fall asunder to your utter discomfiture.

H.

RINKING ON MARBLE.—They are laying down an unpolished marble floor in the skating-hall at Prince’s. One piece is finished, and some men who have tried it say it is pleasant to skate on, and there is less jar than on the asphalte; the wheels run more silently over the marble surface. If the hall-floor answers, it is to be laid down the whole length of the out-door rink.

HOME AND FOREIGN NOTES.

ART AND THE SOCIAL SCIENCE CONGRESS.—An art section of Congress, to be held at Liverpool in October next, has been organised, and Mr. E. J. Poynter, principal of the National Art Training School, South Kensington, will preside over the section. The subjects for discussion will include:—1. "On the Desirability of the Improvement of Street Architecture, especially as regards its Connection with Public Buildings, and of the Encouragement of Mural Decorations, including Frescoes and other Painting;" 2. "The Influence of Decorative Art and Art Workmanship in all Household Details and Furniture upon Society;" 3. "The Influence of Academies upon the Art of the Nation."

THE KEELY MOTOR.—This invention is being much talked of in America. From his name, Mr. Keely would seem to be an Irishman, or of Irish descent, and if a working man, as described (supposing his invention be real) his fortune is already made. He declares that by means of his machine he can, without the use of fuel, and by merely turning a handle, generate out of water a vapour so much more powerful than steam that with a gallon of this water he can drive a heavy train from Philadelphia to San Francisco, and with a hoghead he could impel a Cunard steamer from Liverpool to New York against a continuous westerly gale. It is stated that those who Mr. Keely got to examine the matter are satisfied with the experimental results, and a company has been formed, and a small capital raised for further preliminary experiments. It is also stated that Mr. Keely refuses to receive a cent until the world is thoroughly convinced of the reality of his invention and patents secured in every country.

CLEANING ENGRAVINGS.—Put the engraving on a smooth board, cover it thinly with common salt finely pounded; squeeze lemon-juice upon the salt so as to dissolve a considerable portion of it; elevate one end of the board, so that it may form an angle of about 45° or 60° with the horizon. Pour on the engraving boiling water from a tea-kettle, until the salt and lemon-juice be all washed off; the engraving will then be perfectly clean, and free from stains. It must be dried on the board, or on some smooth surface, gradually. If dried by the fire or the sun, it will be tinged with a yellow colour.

The new church of the Sacred Heart, Laytown, has been dedicated by the Most Rev. Dr. Nulty, R. C. Bishop of Meath. It has been erected from designs by Mr. P. J. Dodd, architect, Drogheda. The contractors were Messrs. James Collins and F. Campbell of same town. The church consists of nave 80 ft. x 28 ft., divided into bays externally by buttresses of two stages in height. Each bay has a lancet window in same with cusped head. The entrance porch is at the south side, there being also another entrance in west gable, over which is a well-proportioned three-light window. The east end terminates in an apsidal chancel. In each end there is a handsome traceried window with high pointed gable over. The site is the gift of Mrs. M'Donough of Drogheda.

CITY FIRE BRIGADE SERVICES.—Mr. R. M. Gore, of Lower Camden-street, was summoned for 10s. 6d., half of the expenses incurred by the Fire Brigade in extinguishing a fire on his premises. Defendant did not appear, and Captain Ingram, Chief of the Brigade, having been examined, Mr. Barton expressed surprise that so moderate a charge had not been paid, and inflicted a fine of 10s. 6d., with 8s. 5d. costs.

ADULTERATED MUSTARD.—At the Southern Police Court, John Rorke, of 30 James's-street, was fined 10s. for selling mustard adulterated with 60 per cent. of red pepper, wheaten flour, and turmeric. Defendant stated that he sold the mustard as he had received it. James G. Montgomery, Queen-street, was summoned for a similar offence, the mustard being 40 per cent. adulterated. Defendant admitted the offence, but stated that he had purchased the mustard from an eminent London firm. James Smith, Capel-street, was also summoned for a similar offence. A fine of 15s. was inflicted in each case.

NEW LIGHTHOUSE APPARATUS.—A new lantern and lightroom, to be fixed at Galley Head, county Cork, have been completed at Messrs. Edmundson and Co.'s works, Stafford-street. They are the largest ever constructed in the British dominions, and are intended to be used with the new patent gas-light invented by Mr. Wigham, a member of the firm. The lightroom is over 30 ft. in height; the dome and cowl are of copper; the base of the room is constructed of cast-iron plates, 8 ft. in height, with plain joints, the interior lined

with mahogany. There are wrought-iron bars for the reception of polished plate glass. The lantern is made on the plan of the group flashing light by means of revolving lenses of powerful character. There are four sets of burners placed over each other in a straight line, and the extraordinary power of the light emitted may be estimated from the fact that the consumption of gas will be at the rate of 1,600 ft. per hour, and the illumination equivalent to 2,248,000 candles. By means of clockwork the lenticular apparatus revolves, causing the flame to be transmitted by a rapid succession of shocks. The clockwork which keeps the lenses in motion also serves for the purpose of turning the gas on when each flash of light is required, and thus saving about half the quantity of gas. It is satisfactory to find that so important a work, and one altogether new here, has been so successfully carried out by this well-known firm.

STREET OBSTRUCTIONS.—Wm. O'Brien, provision dealer, 46 Upper Baggot-street, and Henry Hart, butcher, 33 Upper Baggot-street, were summoned, at the instance of the nuisance officer of the Pembroke Township Commissioners, for obstructing the thoroughfare. The former, who had placed barrels and baskets of potatoes on the pavement, was fined 10s. and 10s. costs; and Mr. Hart, whose stall projected 14 inches on the footpath, was fined 10s.

MEMORIAL WINDOW.—A memorial window has been erected in Ballymoney Parish Church, by William J. Fry, Esq., of Queenstown, in memory of his father and mother; the former of whom was for many years organist of the church. The window has two figures—the first represents the "Sweet Singer of Israel," playing on the harp; the second is a female figure, representing "Charity," having in her arms a child, with a girl in a suppliant attitude at her feet. Underneath the figure of David are the words:—"My father, John Fry, died 20th June, 1866," and underneath Charity:—"My mother, Sarah Fry, died August 6th, 1848." Engraven on a brass plate is the following inscription:—"Erected by their son William John Fry, of Queenstown, Cork, in remembrance of an affectionate father and loving mother—January, 1876." At the top there is a circular pane with the monograms of "J.F." and "S.F." The design and execution are alike exquisite, the colouring of the graceful flowing robes being treated with a true instinct of artistic effect.

TO CORRESPONDENTS.

ARTIZANS' DWELLINGS.—We direct the readers' attention to a paper on this subject elsewhere in our columns, accompanied with plan, shewing new sanitary arrangements, &c. From time to time on our own part we will have our say upon this important subject, but for the present we invite and court discussion on the part of the profession and intelligent outsiders.

"NOTES ON NEWCOMEN."—We will likely have something more to say on the subject shortly.

AMATEUR PLASTERER.—The process of preparing the pulp for the moulds is, we believe, somewhat similar to that adopted in the manufacture of papier-mache, and is therefore, we fear, too complex and beyond the means of an ordinary workman. Paper moulds and matrices have been used for some years back for casting ornaments, and the system is now in general use for stereotyping. Whether moulds for your purpose can be had in Dublin at present we are unaware. They can, however, be procured from London.

RED BRICK BUILDINGS.—Numerous domestic buildings erected over Ireland during the days of Queen Anne and George I. and II. are constructed of this material; the bricks, however, are smaller and smoother than at present. North and south of Dublin there are several mansions once occupied by members of the nobility, in the "Queen Anne style." The great majority of the new London School Board schools are in this style, or in a combination of it with the domestic style of preceding reigns.

DANTRÉ.—1. We cannot learn anything satisfactory as to progress with the O'Connell Monument. The Chancery proceedings may not be concluded for some years, and still the O'Connell Memorial may be looked for in vain. 2. Our fellow citizen Thomas Farrell executed the fine statue of "John of Tuam."

ARCHITECT (London).—Most likely; matters are yearly improving in the direction named.

A CONTRACTOR.—We could not advise you on the subject. Consult a respectable solicitor.
Received—J. B.—T. S.—Chip—E. and Co.—A Painter—Sanitas—Anna Liffey—W.—&c.

NOTICE.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

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Fitzgerald-street	
NORTH SIDE.	
Drumcondra-terrace	Geraldine-street
St. Albansus-road	O'Connell-street
Grattan-parade	Sarsfield-street
Killarney-parade	Goldsmith-street
Mucross-parade	St. Vincent-street
Maugerton-parade	Thomond terrace
Glengriff-parade	Home Rule-terrace
Dunloe-parade	Fountainey-street
Innisfallen-parade	Primrose-street
Fitzgibbon-street	Shamrock-street
Margaret-place	Emmet-street

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Axle Pullies, 1½ in., No. 40, 17s; 50, 18s. 6d.

R. B. and Co.'s Best Pointed Screws, 62½.

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PRESS NOTICES.

Athenæum.—We cannot now continue an examination of the contents of Mr. Brash's capital book. Let it suffice them that we recommend the perusal of the chapters on the churches of the Cistercian Order, Fonts, some of which have curious peculiarities, Masonry, and Early Christian Masonry. . . . Mr. Brash is a painstaking and accomplished student.

Academy.—Since Petrie gave to the public his (alas!) unfinished work on the Ecclesiastical Architecture of Ireland previous to the Anglo-Norman Invasion, the work which heads this article is the most important and valuable contribution to an interesting and almost unexplored branch of knowledge. . . . The volume does great credit to the enterprising publisher.

DUBLIN:

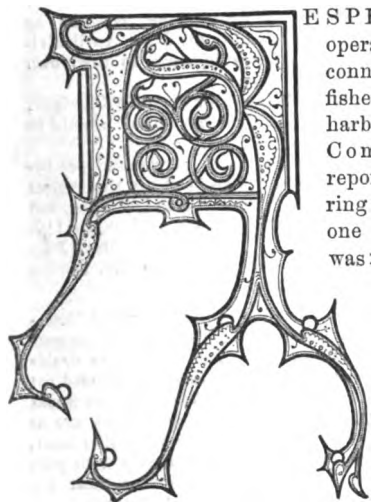
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The Irish Builder.

VOL. XVIII.—No. 400.

Public Works in Ireland.*

SECOND NOTICE.



RESPECTING operations in connection with fishery piers and harbours, the Commissioners report that during the year one memorial was received for a new pier and some wharfrage accommodation for the use of fishing boats at Skerries,

County Dublin. They also state that, as the Government intended during the present session to proceed with bills empowering the Board to advance money for the improvement of the important fishery harbours of Arklow and Ardglass, involving a large expenditure, acting under the directions of their Lordships of the Treasury, they did not bring forward applications for grants in aid of fishery piers from any other places, with the exception of Kinsale.

The usual work of repairs and maintenance has been attended to in connection with works of inland navigation. In the matter of the Ulster Canal, though it has been reopened for traffic for three years, up to the present very limited use has been made of it as means of carriage, and there is no improvement in the amount of traffic. The Commissioners are of opinion that any improvement in the amount of traffic will depend chiefly on a through trade between the north of Ireland and Belfast and the towns situated in the vicinity of the canal and on to Lough Erne, which can only be effected by the assistance of steam tugs, which are not yet used on Lough Neagh.

Though there has been a slight decrease in the tolls received in the Shannon navigation, still, considered as a whole, and making allowances for obstructions caused during severe weather, the progress of the traffic has been maintained.

Eleven candidates for the office of county surveyors' assistants have been examined, and their qualifications certified, six receiving their appointments.

The report of Mr. Robert Manning, C.E., chief engineer, on piers and harbours, shows that the usual works performed at Kingstown Harbour during the late year consisted of maintenance and dredging. Similar works have been carried out at Howth, Donaghadee, and Dunmore harbours. Works are in progress, or in course of completion, at the following fishery piers and harbours:—Glin Pier, County Limerick; Courtmacsherry

Harbour, County Cork; Port Oriel Harbour, County Louth; Ballyvaughan Pier, County Clare; Rathmullen Pier, County Donegal; and Giles Quay, County Louth. For the new works at Ballyvaughan the Board have entered into contract with Messrs. Mannix and Slade, contractors, and the works at Rathmullen will be executed by Mr. W. J. Doherty, Mr. T. A. Mullins being appointed to superintend the works.

In the Borris-in-Ossory Drainage Maintenance District the works have been carried out under the superintendence of Mr. H. J. B. Kane, C.E.

Coming to the Inspector's Annual Report in Appendix C, *re* Landed Property Improvement, Mr. William P. Prendergast writes that in the north-western district, comprising the Counties of Fermanagh, Cavan, Monaghan, Leitrim, and Sligo, the working of the acts has been chiefly confined to buildings for agricultural purposes, labourers' dwellings, and farm offices. He speaks of the diminution of tillage, and consequent scarcity and high price of straw, rendering thatch very expensive and troublesome, slated roofs being everywhere in demand. The provisions of the acts enabling owners to obtain money for new roofs to old cottages, provided the walls are strong enough, as well as to build new houses, have induced many to put their labourers into more substantial dwellings than were formerly common in this part of Ireland. And thus reasons the inspector:—"One of the most crying evils so long publicly commented upon—viz., the want of respectable habitations, has been gradually diminished, and the samples of improved cottages are sufficiently numerous and well placed to serve as a tangible evidence of a progress worth noting, and that it is likely to continue and increase." We are glad to hear this, but we are of opinion that the samples of improved cottages must be far more numerous and better placed before we can congratulate ourselves that any great improvement has yet taken place. Improvements, of course, in different directions are visible in the matter of labourers' dwellings, but as yet we hold the progress is slow. For all that, we are glad to hear such a good report at the hands of Mr. Prendergast.

Mr. Edmund Murphy reports in reference to the Counties Donegal, Down, and a portion of Derry, of work comprising drainage, general reclamation, the building of farm offices, and labourers' cottages. He particularises some works which have been well executed. Generally speaking, he is of opinion that all the works in his district have been satisfactorily carried out. He regrets that so few have availed themselves of the provisions of the Land Improvement Acts, and is of opinion that if a few pounds were spent in bringing the provisions of the Acts before the notice of the tenant farmers and "small" owners, many more might be induced to obtain means to improve their holdings. These are the classes, he thinks, which most require aid, and who know literally nothing, generally speaking, of the facilities the various Land Improvement Acts afford them. We are inclined to agree with the inspector, but the schoolmaster is, we fear, still abroad, and no rapid improvement will take place while he is away. It is the interest of some owners of land to keep others in ignorance of the facilities within their reach. We are sorry to say also that there are large owners of landed property in this country

who prefer to see their labourers in beastly houses instead of habitable dwellings. The thought never seems to strike them that they are standing in their own light, and that the education of the labourer and the improvement of his dwelling means the improvement of the land.

Mr. Thomas Irwin, C.E., reports on the counties of Antrim, Armagh, Donegal, Tyrone, and Down. He finds that there is an increasing desire to provide a good class of slated dwellings for the labouring class, and in many instances the thriving farmer is doing away with thatched houses and offices, and building comfortable residences. Viscount Templeton, in Antrim, is still carrying out his large drainage loan, and his tenants are anxious to have their lands drained.

Of the counties of Carlow, Kildare, Kilkenny, King's and Queen's Counties, Wexford, and Wicklow, Mr. J. Fishbourne reports that in all cases of thorough drainage and fencing the works have been well executed. Labourers' dwellings and farm offices and farm dwellings are also stated to be well built and improved. Tradesmen's and labourers' wages in these districts have increased largely, and also the cost of building materials. Proprietors are reported as willing to improve where tenants agree to pay a proportion of the cost. The appearance of the country in several places is stated to have improved, both in the condition of farm-lands and dwellings for tenants and labourers.

In connection with the County of Longford and parts of Meath, Westmeath, Roscommon, and Mayo, Mr. William Bond reports, that in regard to drainage, fencing, farm-road making, &c., the most important works are those on the estates of Lord Annesley and John Cooke, Esq., in Longford; the late L. H. King-Harman, in Roscommon; and G. A. Rochford Boyd, Esq., in Westmeath. He thinks it is easier to procure labourers now than a few years ago, having a prospect of constant employment. This is owing, we may suppose, also to the decrease in emigration, many preferring to stay at home, the accounts of the labour market in America of late being so discouraging, as the returns of the Registrar-General prove.

The County of Tipperary and parts of the County Clare are reported upon by Mr. James Jocelyn Poe. In reference to labourers' dwellings he states that Mr. Gibson of Rockforest, who obtained a large loan for the purpose, has built several very comfortable houses, with yards, &c., attached. Loans of smaller amounts were had by Lord Rosse, the late Vicomte Chabiot, and Mr. Barton, of Fethard. Suitable houses for the purpose have been provided. For farm offices a large loan has been made to Mr. Parker, of Castlelough, for a very extensive range of offices approaching completion, and for offices in connection and addition to his residence at Somerset, near Parsonstown. A loan of nearly £2,000 has been well expended by Mr. O'Meara, an extensive landholder in the district; and works of the same character, on a smaller scale, have been completed by Mr. J. R. Minnett, at Annesley, in Lower Ormond.

In the Counties of Galway, Mayo, Roscommon, and parts of Clare, Mr. Edward Townsend reports the execution of some important works of drainage on the part of

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* The Forty-Fourth Report from the Commissioners of Public Works in Ireland, &c. Dublin: Alexander Thom. 1876.

several proprietors. Substantial farm dwellings are being erected by Mr. Kirwan of Gardenfield, Mr. John O'Rorke of Tagboy, and some good offices by Mr. O'Shaughnessy of Birchgrove, and Mr. Toler of Bloomfield. He concludes by saying the country is beginning to exhibit manifest signs of improvement from works executed under loans.

The County of Limerick, and portions of Clare, Tipperary, and Cork are reported upon by Mr. William Sidney Cox, C.E. In addition to works of land drainage, subsoiling, fencing, and planting for shelter, the Inspector notes, in respect to buildings, that they include farm dwellings, farm buildings, and labourers' cottages. In respect to the latter he honestly states that many of them are still sadly neglected throughout the country, the cost of their building necessitating a higher rent than, in frequent cases, the labourer is either willing or able to pay. Otherwise he thinks that proprietors would avail themselves largely of the provisions of the "Labourers' Dwellings Act." Non-ability to pay a higher rent in the majority of cases, we think, is the principal reason; but we think it is the duty of landed proprietors to evidence a little philanthropy, and agree to be out of pocket, to some extent, for their own credit's sake if no other, in replacing the miserable houses on their estates by decent dwellings fit for human creatures. When so much is being done in the sister kingdom at present in behalf of the industrial poor, we think the example is worthy of imitation in Ireland. The value of labour in the above districts, as reported, is very much higher—skilled and unskilled—than it was years ago. As it is likely to increase, this ought to offer a stronger inducement, we think, to landed proprietors to set about providing an improved class of dwellings upon their estates.

The County of Kerry is reported upon by Mr. Henry Stokes. Matters do not appear to be improving in this county, judging from what the Inspector states. He instances the remarkable changes to be seen, in the fact that more than half the land improvement works, and very nearly half of the building works are executed by the proprietors on farms in their own occupation or not intended for letting to tenants. He also states there is less improvement of either kind now in progress for the benefit of lands in tenancy than there has ever been, in his belief, since the "Land Improvement Act" was passed twenty-nine years ago. He says that this is one of the results of the Land Bill of 1870, which was always expected. Though progress is slow, he believes it is quickening, and he observes great activity, particularly in the north and central parts of Kerry, among farmers in making improved cattle houses, and enlarging their own dwellings, but not for labourers. He holds that the general working of the Land Improvement Acts depend more on the improvement of the labouring class than on anything else, and, with the return of work for wages still on the decrease, it is easy to see the benefit of advantageous loans must decrease also. He states there have been too few labourers' dwellings built last year in Kerry, and most of them were too costly. The Knight of Kerry and Mr. James Butler are reported having built a great number of them, and they have only put up dwellings that can be called a financial success.

Mr. J. J. Cornwall reports briefly concern-

ing a district in Cork. He says there is a decided tendency towards improving the dwellings of both farmers and labourers, and that the building works have all been carried out in a satisfactory manner.

In our review of the Inspectors' reports we have taken notice principally of building operations, as the subject interests us much in view of the advocacy of the question in this journal. On the whole, it will be seen that strong evidence is adduced of general progress over the country in the matter of improved dwellings for farmers and agricultural labourers.

In our next paper we will take notice of the report on "National Monuments and Ecclesiastical Ruins," by Mr. T. N. Deane, which deserves special attention.

THE O'CONNELL MONUMENT.

THE unfortunate position of matters respecting the O'Connell Monument calls undoubtedly for some energetic and decisive action on the part of the Committee. We have hitherto spoken our mind honestly, although perhaps not agreeably to some, in reference to the long delay, and we certainly have blamed the Committee for their procrastination up to a period shortly before the death of Mr. Foley. Since the death of that great artist, his representatives and others interested in his effects, are engaged in litigation. With the legal quarrel we have nothing to do, but with the proper completion and handing over the monument, the Memorial Committee, as representatives of the subscribers, have.

From all the correspondence that has passed between Mr. Tenniswood and the O'Connell Committee we gather little hope; and it is not at all unlikely that several more years may pass over, and that we shall still find the monument unfinished. We do not wish to advocate any harsh measures, or a line of conduct that might be regretted hereafter, but we do say that a more definite answer should be forthcoming from Mr. Tenniswood. If he is not prepared to complete the contract within a stated time, or repay the £2,000 advanced, the O'Connell Committee should at once proceed to bring the matter to a direct conclusion, so far as Mr. Tenniswood is concerned. Sooner than any further delay should occur, the question arises whether it would not be better to sacrifice the £2,000 at once (leaving its recovery a matter of future action), and proceed at once to hand over the work to a resident artist? Neither the money paid, nor the work so far as it is at present finished, would be likely to be handed over to the Committee without an expensive legal battle. In the light of present matters, a resolution should at once be come to, whether we shall wait, wait, with a hope deferred and still fleeting, or commence *de novo* by giving a commission to a native and resident sculptor who can and will finish the work under the inspection of the Memorial Committee.

Having said so much, we think it may not be amiss to append here a report of the proceedings at the last meeting of the Committee, as it will show how matters at present stand:—

At a meeting of the committee, held at the Mansion House (Rev. Dr. Doyle presiding), present, Mr. Edmund Dwyer Gray (*Freeman's Journal*), Mr. James Hughes, Mr. Michael Angelo Hayes, Mr. Hayden, T.C., Mr. Peter Roe (IRISH

BUILDER), and others, a letter was read from Mr. Denis Moylan in reference to the request of the 5th April that the dividend on the stock standing in the name of Sir D. Corrigan and himself should not then be drawn. He stated that he had had an interview with Mr. E. D. Gray, who advised that the amount of the April dividend should be drawn and reinvested.

Mr. Gray said he thought it would be better to draw the dividend and lodge it to a separate account.

On the motion of Mr. Hughes, seconded by Mr. Hayden, a resolution was passed to the effect that in view of the delay which had taken place, and to meet necessary expenses, the trustees be authorised and requested to draw the April dividend, and lodge the same in bank to their own credit.

A letter was read from Sir Dominic Corrigan, suggesting that the opinion of counsel should be taken in reference to the trust.

Mr. Gray having read some correspondence between himself and Mr. Tenniswood on the subject of the monument which took place last June, and which has been already published, said on the 11th July he wrote, with the approval of Rev. John O'Hanlon, another pressing letter to Mr. Tenniswood. It was as follows:—

SIR,—A special meeting of the O'Connell Monument Committee will be held on Monday to consider the present position of matters and to decide on the future course to be adopted. I need not point out to you the difficulty the committee would feel in allowing matters to remain as they are at present any longer; nor need I, on the other hand, I hope, assure you that it would be only with pain and reluctance, and as a last resource, that the committee would propose to entrust the monument to other hands; but it is evident that something must be done. If you could write with any degree of definiteness between this and Monday it would be very useful, and might conduce to the solution of the difficulty. At any rate, I trust you will let me have some communication to lay before the meeting on that day.

The following was Mr. Tenniswood's reply:—

10 Osnaburgh-street, Regent's Park, N.W.,
London, 14th July, 1876.

SIR,—In acknowledging yours of the 11th inst, I regret to say that legal proceedings, to which I referred in my last (June 6th) as preventing for the present my taking any steps for the completion of the O'Connell Monument remain the same. I need not, I trust, as Mr. Foley's representative, assure you of the concern this continuous delay in the completion of so important a work occasions me; but I cannot, in justice to myself, whilst replying to your very pressing note of the 11th, avoid reminding you that for this delay I am not responsible. Had the O'Connell Committee acted on my willingness to proceed with the work on the death of Mr. Foley, now nearly two years ago, as other committees did, the monument might by this date have been very far advanced towards completion; but it was only in March last (four months since), on the closing of the "Cloak controversy," that the basis of terms for completion were forwarded to me. How far I have striven to meet the wishes of the various committees of Mr. Foley's unfinished commissions is evidenced by the numerous works that have been satisfactorily completed and erected since his death, and among which four important statues have been erected in Ireland—viz., those of Gratian, Guinness, Lord Rosse, and Dr. Stokes. Hence it will be seen that whilst works were progressing for the completion of which their respective committees empowered me to proceed, the O'Connell Monument was standing still, the committee declining to authorise its progress from August, 1874, to March, 1876, at which latter date commenced the proceedings that prevent my taking action for its completion. I mention these facts in order that all interested in the monument may have the opportunity of judging to what causes the delay in the work is really due. At the earliest moment my legal position will allow me to write more definitely as to the future progress of the work, I shall have the pleasure of further communication.

GEORGE F. TENNISWOOD.

E. D. Gray, Hon. Sec. O'Connell
Monument Committee.

Mr. Gray observed that that letter was throwing the entire responsibility on the committee.

The following letter was read from Mr. Gernon:—

Kildare-place, 31st July, 1876.

DEAR GRAY,—Fortunately, or unfortunately, I am going to London to-morrow, en route further on for my vacation, and cannot be calculated on for six weeks or more. If Mr. Tenniswood now seeks to throw the blame of delay on the committee, I certainly think he ought to be met by a firm and

determined resolution, to the effect that he be called on at once to elect whether he will proceed to complete the statue on the terms and within the period specified in the recent correspondence with him, or to repay the sum of £2,000 advanced to Mr. Foley, with interest, so as to enable the committee to place the execution of the entire work in other hands.

The Chairman—That goes very near it, at all events.

Mr. Hayes—I think it would be a good plan to publish Mr. Gernon's letter, and adjourn, in order to have a meeting called which might take some decided steps.

Mr. Gray—We scarcely can take it on ourselves now to embark in a serious action like the repudiation of a contract; but, suppose we passed a resolution requesting the trustees to place at our disposal a sum sufficient to fee eminent counsel, in order to place the whole matter in a stated case before him, and take his opinion thereon, and that the committee adjourn pending that. It would not be well to take any formal steps to break off the contract without the sanction of a large meeting.

Mr. Hayes—I do not think it would be desirable to throw up the contract at all.

Mr. Gray—Unless we had a large meeting and had the question thoroughly threshed out, I do not think we would be justified in taking any final step.

Mr. Hayden proposed the following resolution, which was seconded by Mr. Hayes, and passed:—

That the correspondence just read with Mr. Tennyson be published, and that the honorary secretary be instructed to write to him, formally repudiating the responsibility for the delay now sought to be put upon them, pointing out that this committee opened negotiations for the completion of the monument so soon as Mr. Tennyson became legal representative of the late Mr. Foley, probate having been granted to him; and that so far from his even proposing to carry out the contract on the same terms as Mr. Foley, he from the beginning announced his inability to do so.

On the motion of Mr. Roe, seconded by Mr. Hughes, it was resolved that Mr. Gernon's letter be inserted on the minutes, and the consideration of it adjourned to a future meeting.

On the motion of Mr. Gray, seconded by Mr. Hayden, it was resolved that, having read the letter from Sir Dominic Corrigan, a case should be laid before two eminent counsel for advice as to the best means of placing the trust in a satisfactory position, and generally to advise the committee as to the best course to be adopted under present circumstances; that the trustees be requested to place at the disposal of the honorary secretaries the necessary funds for the purpose; and that their opinions be invited as to what counsel they would desire to have employed, and the form in which the case should be prepared.

KILLYNETHER HOUSE, COUNTY DOWN.

WITH this number we give a double-page illustration of Killynether House, which is pleasantly situated on the south-east side of Scrabo Hill in the County Down, and commands extensive views in this and neighbouring counties, including the Mourne range of mountains; the Cave Hill, Belfast; Strangford Lough, &c., while the Isle of Man and Scotland in the distance can be easily seen from the grounds. The house nestles in close to the side of the hill, which rises abruptly to a height of 500 ft. above sea level, and is on this side densely wooded; it is crowned by the monument erected to the memory of Charles William Vane, third Marquis of Londonderry, the hero at the Douro and El Bodon, and brother to the famous statesman, Lord Castlereagh.

Considerable alterations and additions have been made to the house by the present Marquis of Londonderry, and it is now one of the most elegant and commodious mansions in the county. It contains, in the basement storey, kitchen, scullery, pantries, servants' hall, servants' rooms, cellars, hoist, &c. On the ground-floor, drawing-room, dining room, library, Mr. Brownlow's room, two sit-

ting-rooms, housekeeper's room, butler's pantry, store-room, cleaning-room, men servants' room, w.c.; and on the first floor are nine bed-rooms, with dressing-rooms, linen closet, bath-room, and w.c.'s. The plumbing arrangements are very complete, and comprise all the most recent suggestions and practical improvements in sanitary science, carried out under the immediate supervision of the architect. The office buildings include in the stables a fine range of horse stalls and loose boxes, by Messrs. Riddell and Co.; coach-house, harness-room, laundry, and other necessary buildings. A supply of water is procured from a well sunk in the trap-rock about half a mile distant, and brought in pipes to a cistern sunk in the side of the hill at a level sufficient to command the house.

The works, which are now nearly completed, have been carried out to the entire satisfaction of the Marquis of Londonderry, and Mr. Brownlow, his much-respected agent, from the designs and under the personal superintendence of the architect, Mr. Henry Chappell, C.E., Newtownards.

EMPLOYERS AND WORKMEN—ENGLAND AND SCOTLAND

AT Manchester the plasterers' strike closed on the 22nd ult., after a continuance of sixteen weeks. Fifty firms have granted the rate of wages claimed—28s. per week.

At Bristol the builders' labourers, at a mass meeting, have passed a resolution demanding three farthings per hour advance in their present rate of wages.

At Bath the masons employed on the Western Goods Station (who struck work on account of having been required to fix stone prepared away from the works) have come to an understanding with their employers, and have re-commenced their work.

At Gateshead the operatives have resumed work, after a struggle of thirteen weeks, having failed to obtain their demands. The employers have opened their shops subject to a set of working rules to be settled hereafter.

At Mold an unusual amount of practical sympathy has been evidenced by the workmen employed at the tin plate works. The proprietors having recently suspended payment, a large body of the workmen met and resolved to work one week in every month until Christmas, for the benefit of their employers, without expecting any return of wages.

At Glasgow the dispute between the joiners and their employers still continues. The men are prepared to hold out several weeks longer. From reports issued by the masters it appears that in five districts there are 898 men working on the masters' terms, 757 working on their own terms, and 2,163 still on strike.

At Greenock, in consequence of a dispute about "brickwork," the operative masons of several firms were locked out.

At Nairn the operative masons have had their demands granted. They struck work with the object of compelling their employers to pay them at their respective works on every alternate Saturday ere they cease work—in other words, to receive payment of wages in the masters' own time.

An amalgamation of English railway servants' societies is contemplated. At the half-yearly sitting of the executive council of the Amalgamated Society of Railway Servants, held some days ago in London, the council represented some 20,000 railway servants in various parts of the kingdom. The general secretary, Mr. Frederick Evans, submitted a detailed report of his recent visit to Scotland, with a view to the amalgamation of Scotch and English railway servants' societies. The following resolution was unanimously agreed to:—"That the general secretary be directed to again visit Scotland,

with a view to bring about the proposed amalgamation of the two societies, and to arouse the more kindly and more friendly feeling between the railway servants of the two countries."

Throughout the sister kingdoms disputes still continue in the iron and coal trades.

NATIONAL MONUMENTS.

IN the House of Commons Mr. Mitchel Henry asked the Chief Secretary for Ireland whether his attention had been called to the recent report of the Commissioners of Public Works in Ireland, in which Mr. Deane recommends that the list of national monuments should be increased, so as to include many round towers and churches worthy of preservation, and which could be preserved for centuries by a trifling outlay; and, if so, whether any steps will be taken by the Commissioners of Church Temporalities to carry out the suggestions of Mr. Deane, the superintending architect.

Sir M. H. Beach replied that the report of the Commissioners of Public Works in Ireland is addressed to the Treasury, of which the Board is a sub-department, and my attention had not been called to it until I saw the notice of the honourable gentleman's question, nor have I any control over the Church Temporalities Commissioners. But they have informed me that, considering the large sum of money, £82,554, which they have already handed over to the Board for the maintenance of ecclesiastical ruins, as national monuments, they could not feel themselves justified in making further grants for similar purposes, unless some urgent reasons were given them for doing so. They are, however, still ready to give full consideration to any case that may be brought under their notice. Special allusion is made by Mr. Deane to the ruins of a particular church, but those ruins have been vested in the Representative Church Body, under the 25th section of the Irish Church Act, and that body will, no doubt, take proper steps to preserve those ruins from further decay.

CORK DISTRICT LUNATIC ASYLUM.

AT the monthly meeting of the governors, held on the 4th inst., it was proposed by Mr. Hall, seconded by the Earl of Mountcashel, and unanimously agreed, to appoint Mr. W. H. Hill to be the architect and superintendent of the works of the Cork Lunatic Asylum now on hand, it being expressly understood that the appointment has only reference to those works, commission 2½ per cent. for superintendence and amending and altering the plans if necessary. A letter was read from the Board of Control with respect to Mr. Atkins's (architect) claim for £800 for services rendered to the Board of Governors, stating that they approved of the payment of that sum, but they added that they could not give their consent to the payment of the additional sum of £50 until they were informed of the claim of Mr. Atkins for works previously executed at the Asylum. The Chairman said there was a letter written by their law agent (Mr. Coppinger) explaining the matter. Mr. Norreys thought it was odd that it required the services of a solicitor to explain the matter at all. The Clerk then read the letter from Mr. Coppinger explaining the whole claim of Mr. Atkins, and advising that the £850 should be paid to him without further delay. The letter was unanimously adopted.

NEW WORK OF TRAVEL AND DISCOVERY.—Dr. Robert Brown, the popular author of "The Races of Mankind," &c., has for some time past been engaged upon a new and comprehensive work, which will be published by Messrs. Cassell, Petter, and Galpin, in sevenpenny monthly parts, under the title of "The Countries of the World," and will embrace graphic sketches of travel over land and sea, according to the latest discoveries.

NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.*

Our great countryman Jonathan Swift has been considered by some entitled to a place amongst dramatic writers. His name and a notice of his life is included in David Erskine Baker's "Companion to the Playhouse," 1764, a work subsequently improved and enlarged under the title of "Biographia Dramatica," 1782. It is observed in that work anent Swift—"This excellent writer has never yet been included in any list of dramatic authors, but though his temper and inclination seem not to have led him to pay much regard to the stage, yet we apprehend him to have an undoubted right to a place in this work, even on account of his 'Polite Conversation,' which is carried on in a manner truly dramatic." In a note on Mr. Ford's letter, written by George Faulkener, Swift's printer, dated December 13th, 1732, it is stated that Swift wrote two acts of a comedy, which he sent to Mr. Gay, the poet, and author of the "Beggar's Opera," to finish. This comedy was called the "Player's Rehearsal." It would be out of place here to give a detailed notice of Swift's life and labours from the fact of such a slight connection with the stage, and more particularly as no name connected with the literature of this country is better known, and his works are ever accessible. We will, therefore, merely add that he was born in this city in Hoey's-court, off Werburgh-street, on November 13, 1667, and died October 19th, 1745. We are not called upon here to give an estimate of his character as a churchman, political essayist, poet, or patriot. The author of the "Drapier Letters," "Gulliver's Travels," and the "Tale of a Tub," will live in the memory of all classes of his countrymen; and as long as the name of Ireland itself is known, so long will the name of the witty Dean of St. Patrick's, Dublin.

As a dramatic writer, the name of Dr. Samuel Madden is entitled to recognition here. He was born in this country in 1686, and was educated in Dublin. He appears to have been in England in 1729, where his tragedy of "Themistocles, the Lover of his Country," was brought out. We read that it was acted with considerable success in the theatre, Lincoln's-Inn-Fields, in the above year. In the Preface to the Dublin edition of this play, printed in 1729, the author himself writes—"Though prefaces are very idle things to performances of this kind, yet I find myself under a necessity of saying something here, both that I may return thanks to the town for the favourable, the very favourable, reception this piece has met with; and also to give some short account with all sincerity and candour as to the occasion of its writing and publishing. Having always maintained (tho' seldom with success) that the stage might, under proper regulations, be made subservient to the propagating the noblest sentiments and the greatest virtue among our people; and having many years since observed something very great and exalted in the character of Themistocles and his rival Aristides, I took a resolution of bringing them together in the manner I have done, merely for my own amusement in the country, and to justify what I had so often asserted. It was finished in a much shorter time than is proper to mention, and it lay by me much longer, and more entirely neglected and forgotten than is usual, I believe, in such writings, till happening to show it to a friend who thought it better than it deserved, he tempted me to let it come out by the offer of a considerable study of books out of the profit of it, and to satisfy my disinclination to appear in such an affair by transacting everything under his cover. This was accordingly agreed to, and the copy lodged with Mr. Rich, when the death of my friend made it absolutely necessary for me to appear in it, as not to let it be ruined by my own neglect or others' mismanagement, since there was no avoiding its coming into the world."

* See ante.

In 1732 Madden published a curious work, entitled "Memoirs of the Twentieth Century," a book which, for reasons now unknown, was entirely suppressed in a few days. It was owing to the exertions of the noted Thomas Prior, Dr. Madden, and others that the Royal Dublin Society was originated and supported for the first eighteen years of its existence. In 1740 Dr. Madden set apart the sum of £100 to be distributed in premiums for the encouragement of arts, manufactures, and science in connection with this institution, which sum he continued to give each year during his life. Mr. Sheridan in 1757 paid a warm tribute to the services of Dr. Madden. It is stated that our author wrote another tragedy which he left as a legacy to Mr. Sheridan, but it was never published. Dr. Madden possessed some church preferment in this country. He was long, and is still, known as "Premium Madden" for his gifts above stated. He died on the 30th December, 1765.

Reverting to the state of theatrical matters in Dublin in 1739, Hitchcock informs us that Mr. Duval gave up his license of acting by permission of the Lord Mayor, and at the top of the bills at this time is to be found the words, "By the authority of the Right Hon. Luke Gardiner." In December in this year two pieces were produced—a tragedy called the "Treacherous Husband," and an opera "Whittington and his Cat." These were for the benefit of the author, whose name has not reached us. These pieces do not appear to have been ever subsequently reproduced. "Nearly in the same predicament," writes Hitchcock, "stood a new tragedy called 'Tamar Prince of Nubia,' written, as the public were then informed, on the late famous revolution in China, by Michael Clancy, M.D. The affinity between Nubia and China I am not able to discover; however, it was played, and soon after consigned to the oblivion it merited."

Now, Dr. Clancy does not deserve to be dispatched so cavalierly as Hitchcock has treated him, for his life was somewhat eventful, and he was the author of other plays which were acted upon the boards of our Dublin theatres. Greater men than Michael Clancy had their plays damned, and nearly deserved a like punishment for the bad example they set by their writings. To be the author of a bad and a stupid play does not argue that the author himself is radically bad, so Michael Clancy deserves fair treatment at our hands. From Baker's and other works we learn that Clancy was the son of a military man, of an ancient and once powerful family in the County Clare. He was born either near the close of the seventeenth or the commencement of the eighteenth century, but was passed over to Paris in his eighth year. He was placed in one of the best colleges of that city, where he continued for some years, it is said, until the time that the Duke of Ormond fled from England to St. Germain. On that occasion Clancy is represented as stealing out of college with two of his companions to see a person so celebrated in Europe, which, having accomplished, he was, either through fear or shame, deterred from returning to his preceptor. He resolved on returning to Ireland, and after some incidents of travel, reached Dublin. Knowing but little of his early life, remembering to have heard he sprung from a family in Clare, he made his way to that part of the kingdom. On his way through Kilkenny he met with a gentleman, who, pitying his helpless state, and in return for some services formerly rendered him by Clancy's father, placed our youth in a school in that town. Here he continued for three years, but misfortune overtaking his benefactor, young Clancy was deprived of further assistance from that quarter. Accident brought our hero to the knowledge of his relations, by whom he was sent to Trinity College, and became a pupil of Dr. James King. These particulars read like a novel, although a mere outline, but the sequel is nearly as strange.

Clancy remained at the Dublin University

four years, but his prospects not appearing very bright he resolved once more on returning to France. He set sail in a vessel bound for Rochelle on the 24th of July, 1724, and in three days sighted L'Isle Dieu, on the coast of Brittany; but on the fourth day a storm arose which drove the vessel to the coast of Spain, where it was stranded at a mile's distance from St. Sebastian, in Biscay. From this place Clancy procured a passage to Rochelle, and from thence to Bordeaux. Here he resolved on studying physic, and some time after obtained the degree of doctor at Rheims. At what time he returned to this country is not known, but he was here in 1737, when he was deprived of his sight by an accidental cold. It was after this time his "Tamar," already alluded to, was produced, if it is not confounded by Hitchcock with another of Clancy's plays, entitled, "Herman, Prince of Chormæ." After the loss of his sight Clancy still continued to write, being unable to follow the practice of his profession. He produced a comedy called "The Sharper," which was acted several nights on the boards of Smock-alley Theatre, obtaining for him, it is stated, the notice of Swift.

From this time Clancy's position seems to have been a trying one, circumstanced as he was by the loss of sight, and the difficulty of procuring suitable employment for his talents. He, however, procured from George II. £40 a year during his life, and in 1746 obtained a sum of money by performing the part of Tiresias, the Blind Prophet, in "Oedipus," for his own benefit at Drury-lane. Some time after this we find him settled at Kilkenny, at a Latin school there, but we do not know in what particular year he died. Besides the works mentioned Clancy was the author of a Latin poem entitled, "*Templum Veneris sive Amorum Rhapsodia*." A life full of vicissitudes, in sooth, was that of poor Michael Clancy's, and characteristic of the dramatic profession.

The year 1739-40 was marked in this country by one of the severest winters on record, and it put a stop for a considerable time to all kinds of public amusements. The Dublin theatres felt its effects, and actors and actresses had occasion to remember it for years. The poverty and distress of the lower classes in Ireland was worse in many respects than the famine of 1846-7. The poor in Dublin and its vicinity suffered untold hardships, for, as a consequence of the severe and long frosts, provisions the following season reached up to famine prices from their scarcity. The theatres in Dublin were obliged to close for a space of three months, everything was at such a low ebb. In the April following this distressing winter Miss Woffington appeared for the first time, in her famous character of Sir Harry Wildair, in Dublin, though Downes asserts her first appearance in that character was on the London stage. We have already alluded to the birth and early years of the celebrated Peg Woffington, but as we proceed we intend to say further in detail of her career and performances, her life and death, and her charitable trust, over which some mystery hangs, and the funds of which, to our thinking, have been made away with or misapplied years ago. The Woffington Alms Houses still exist in the town of Teddington on the banks of the Thames, but they are now, and have been for long years, little more than alms houses in name.

THE ROTHE MONUMENT IN ST. MARY'S, KILKENNY.—A correspondent of the *Moderator* sends the following translation of the epitaph on Rothe's monument, recently uncovered by the removal of some of the old pews in St. Mary's Church:—"To the Most Excellent and Most Holy Lord—Richard Rothe, son of Edward, having discharged the chief offices and honours of this his native city with great credit for honesty, prudence, integrity, and affability; knowing that being earth himself, he would return to earth; whilst living built this [vault or monument being understood], he being the first buried in it, on the second of July, 1637. Pray earnestly for him whoever you are; so that others may pray earnestly for thee."

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

SKETCH OF THE INSTITUTE OF BRITISH ARCHITECTS.*

(Continued from page 222.)

THE Professional Practice Committee, one of the first and most useful of those appointed by the Institute, had long felt the desirability of establishing a series of rules relating to the practice and remuneration of architects, which, based on custom and confirmed by experience, might serve as an authority for the profession as well as a guide to the public. It was a measure which required some caution and delicacy in promoting, and one on which it was deemed advisable to consult the opinion of individual members. With this object in view a series of questions was drafted and confidentially circulated among members of the Institute. The result was a mass of valuable information, which after careful sifting and analysis afforded material for the General Rules drawn up in 1862, and, after a slight modification, is still recognised not only by members of the Institute but by the profession at large. It is to be observed that those rules, although not absolutely binding on any one, represent so fairly the details of professional usage, that they are constantly accepted as evidence on that subject in courts of law.

The year 1862 saw another good work accomplished by the Institute. An excellent and thoughtful paper had been read by our late president, then Mr. G. G. Scott, "On the Conservation of Ancient Monuments and Remains," calling attention to the neglected state of many architectural relics in this country, and urging the necessity of adopting some means of rescuing them from decay and wanton injury. Such a duty would, in the minds of optimists, naturally devolve upon the State. But the principle of British government, as we know, is not paternal, and the fear of interfering with the rights of private property has long presented difficulties in dealing with this question. Under these circumstances it seemed advisable that a standing committee should be appointed by this Institute for the purpose of investigating cases in which a protest might occasionally be made in favour of ancient buildings threatened with destruction. One of the first duties undertaken by this committee was the preparation of a series of suggestions for the guidance of architects and others charged with the custody or restoration of such buildings. The issue of that paper was in itself of service. But the committee has done more than this, and ever since its appointment it has lent a ready ear to every appeal which has reached it on behalf of architectural relics of historic or artistic interest. In some cases, of course, when counter-pleas of public utility can be urged or financial considerations present themselves, a remonstrance from any quarter must be unavailing, but speaking generally, whenever the Institute has been justified in interfering it has done so, and I believe not unfrequently with success.

In the late Sir William Tite, who succeeded Professor Cockerell as president, the Institute found a liberal benefactor. His wealth enabled him to contribute largely to many of the objects for which this society was founded, while his position in Parliament gave a certain weight and influence to any measures partaking of a public character which it undertook during his twice renewed term of office. Among the numerous acts of generosity that are associated with his name may be mentioned a gift of £500 to the Library Fund, and a legacy of £1,000, the interest of which under the terms of his will is annually devoted to encourage the study of Italian architecture. I cannot refer to the former gift without reminding you of the splendid store of literary and illustrated works on architecture which has been gradually amassed in our library—a collection, so far as I know, quite unrivalled in this country, and presenting great advantages to the student. To Mr. Wyatt Papworth the

Institute is largely indebted for gratuitous services in forming that collection, which, for some years past, has been under the constant care and efficient supervision of our librarian, Mr. S. W. Kershaw.

It was during Mr. Tite's first term of office that the Institute appointed a committee, of which Mr. Charles Barry (our present president) was secretary, for the purpose of drawing up and forwarding to the First Commissioner of Works a series of valuable suggestions respecting the Thames Embankment. A few years later the Institute took an active part in advising the Government on the subject of a new Metropolitan Building Act. I might mention many other instances in which this society, seldom accredited with anything beyond the advancement of professional interests, has undertaken, at a considerable sacrifice of time and trouble, labours for which the public has reason to be grateful.

In 1860, Mr. C. C. Nelson, having discharged the duties of honorary secretary for twelve consecutive years, retired from office, after receiving a handsome testimonial in recognition of his zealous and active services. In the same year the Institute paid a fitting tribute to the memory of Sir Charles Barry by attending his funeral in Westminster Abbey. His friend and fellow-worker, Welby Pugin, had predeceased him by some ten years: but the cause which Pugin had most at heart—the revival of Gothic architecture—was still a watchword with his friends and admirers, who determined to perpetuate his name by founding a studentship, with the nature of which you are all familiar. The power of awarding that studentship is vested in the Institute; and I am glad to add, that the result has been most gratifying to all concerned.

In 1862 Professor Donaldson succeeded to the highest office in the Institute, and it was during his presidency that Mr. C. F. Hayward and Mr. J. P. Seddon were elected honorary secretaries—a position with which their names were long and gratefully associated.

In the following year, the first architectural examination was held, and eight candidates passed in the proficiency class. Of these, two subsequently passed in the class of distinction. Modest as these numbers are, they have never been reached since, in spite of certificates and other inducements; and this want of response is a question which still remains to be solved.

In 1863 the council appointed a finance committee, who have since discharged the responsible duty of regulating the expenses of the Institute, and who annually issue an estimate of the receipts and disbursements for the year.

A little later an attempt was made to establish, in connection with the Institute, a school of art accessorial to architecture. This scheme, after some delay, was in part realised by the art classes for figure drawing, &c., opened at the Architectural Museum, and in support of which some liberal grants were made by this Institute. But here, again, the demand for this species of art-education was found incommensurate with the supply. The British workman and the young British student of architecture were found on trial to be somewhat indifferent to the opportunities provided for them, and the plan was abandoned.

In 1865 Mr. Beresford Hope, one of the most accomplished of our honorary fellows, was elected president of the Institute, and entered upon the duties of his office with a zeal hardly expected from an amateur, but eminently characteristic of his devotion to our art—a devotion which may be described as one of the traditions of his family.

On Mr. Hope's retirement from office in 1867, Mr. Tite was re-elected, this time for three years. To him succeeded in due course and for a similar term of office, Mr. Thomas H. Wyatt and Sir Gilbert Scott. It would be almost presumptuous, and certainly unnecessary, for me to dwell upon the advantages which this Institute has derived

from the generalship of two such distinguished presidents. Suffice it to say that during the last six years the Institute has largely extended its functions and sphere of work. A perusal of the notice papers and the annual reports which have been issued within that period will reveal a record of almost uninterrupted activity, and will afford the best answer to that ill-natured and groundless assertion which we find occasionally made that the Institute is doing nothing, simply because it has not been noisy and officious. It would be a mere platitude to observe that the best and most useful work which is done in this world is often quiet silent work, and I think we should all regret if this Institute, for the sake of a little public notoriety, were to rival in this meeting-room the cheap fussiness of a vestry hall. But if we are to be judged by deeds rather than words, I could give numberless instances in which the Institute has done good and public service to our profession and the art which it represents. The very proceedings we inaugurate this evening, the Conference itself, grew out of a scheme proposed not long ago by the Architectural Alliance and matured by a committee of the Institute, in which Professor Kerr took an active part, and at the present moment there are under consideration by our council and past vice-presidents questions involving as important issues as any which have called for your decision.

In 1867 the number of the council was increased by five, an addition contemplated in our charter, and fully justified by the fact that the Institute has more than trebled its numbers since that charter was granted. The term of office for which the president and council are nominated has been prolonged to three years, subject, however, to their annual re-election by the general body. The policy of this change will be understood when it is remembered how largely the functions of the executive have increased of late. It is not too much to say that it requires months of experience before a member of council can really master the details of the work which he has undertaken, and it would be obviously inexpedient that he should retire from office at the very time when his services are becoming most valuable. Few of those who have not served in the council can have any idea of the number and variety of subjects brought under their notice and requiring their consideration.

About thirty council meetings are held during the session, and on each occasion, perhaps, a dozen matters of more or less importance are discussed. Some of these are at once referred to committees, of whom no less than fourteen sat last year: the total number of their meetings having been fifty. The committees report to the council, in whose name all external business is transacted. This business, it must be remembered, is often quite independent of that involved by the general meetings in this room, of which some twenty have been held during the past twelve months. With these statistics before you, you will not perhaps be surprised to hear that the official correspondence in 1875 reached 1,600 autograph letters. As for communications in a set form, half lithographed and filled up by hand, printed circulars and notices, they are issued by thousands. The letters we receive may be generally classed under two heads, those which come before the council and those which do not. The first are permanently deposited here; the others are classified under some twenty different heads, and preserved for a year or more according to their importance. This sub-division may be considered excessive, but it enables the secretary at a short notice to refer to any letter on any subject under discussion. The minutes of meetings are all indexed on the same principle and for the same object.

The publication of our Transactions, formerly deferred until the close of the session, now takes place, whenever possible, once a fortnight. This would present no difficulty so far as the papers themselves are concerned, but in order to ensure accurate

* By Mr. C. L. Eastlake, Secretary. Read at recent Conference.

reports of the discussion a copy of each speaker's remarks is now sent to him for correction, and they are not always returned in time for issue between one general meeting and the next. Even with this precaution the most careful editing is required to prevent mistakes, and whenever such mistakes occur it is generally because the publication has been hurried. At the recommendation of the sessional papers committee, to whom the Institute is now indebted for choice of subject and author, special invitations are sent before each general meeting to members and others likely to be interested in the topic under discussion. I have issued as many as fifty of these invitations for a single paper.

Without wearying you with further details, or referring to those special matters of business which require special attention, I shall perhaps have said enough to show you that duties which include those of a secretary, editor, and accountant, could not possibly be expected from an honorary officer, who, to be of practical service, must attend daily at the Institute, and that for not one, but for six or seven hours a day—at least at this period of the Institute's career. It was with this conviction that, five years ago, the general body resolved that one of the secretaries should receive a salary, and having said thus much, I shall say no more on a subject respecting which I should be the last to obtrude my personal opinion.

For similar reasons I shall refrain from comment on any of the measures which the late committee on the affairs of the Institute and the present committee of council and past vice-presidents have had under consideration. It is obvious that, as time goes on, and the conditions of things change, the administration of this and every other society will present opportunities for improvement which commend themselves with special importance to individual minds. It is on such occasions that the collective wisdom of an executive body is of service. They alone can estimate the worth of this or that suggestion for reform. They alone know the difficulties which have deferred its realisation.

Finally, in thanking you for the kind attention to which you have listened to a paper, prolonged, I fear, too far for your patience, I will only add my hope that the General Conference which this meeting inaugurates may be attended by practical advantage to our profession and to the several societies by which it is represented.

HEALTHY HABITATIONS.*

(Continued from page 225.)

Pass we on to the walls of the house. Bad walls may be constructed of too porous materials, which will allow the beating wet to pass through them. Here the advantage of hollow walls is manifest, down the interior space of which the moisture may trickle and be carried away. It has been suggested that walls should be built of impermeable materials, to prevent the intrusion of water; and at one ironworks alone in this country some 120,000 bricks, formed out of blast furnace slag, are turned out weekly. But in a house built in Bavaria with this very material it was found that, although dry at first, it proved unbearably damp in the end; the reason being that the vapours given off in cooking, washing, and breathing simply condensed upon the inner surface, and remained there. The truth is a wall must breathe; and even with the doors, windows, and registers shut a sensible supply of air should pass in and out of the room through the wall substance. This is supplying fresh air without draught, as was intended by Nature. For this reason also it is wrong to paint the walls either inside or outside, to cover them with varnished papers, or in fact to do aught but distemper them with water colour, which cannot close up the pores. For so surely as

we do prove treasonable to Nature in this matter so certainly shall we suffer. In halls and in corridors where ventilation is constant, and where one merely passes and repasses, we may indulge to the long length of our purses in marbles, casings, tiled dados, and oil-painted spaces; but in our living rooms and dormitories let us beware of such innovations.

The walls of a room may, however, be properly enough built and yet act prejudicially, owing to the paper bestowed upon them. I need say nothing, however, of the arsenical papers and the poisonous flock papers, for householders are now mainly alert to the mischief which they work, and are even demanding that Government paternal should forbid their importation or manufacture amongst us. That arsenic is sometimes poisonous, even when present upon smooth substances, was proved the other day at Bonn, where a professor and two students were seized with violent headaches, and where the mischief was traced to the green shade over the lamp, which was coloured by the poison, and which the heat of the lamp had set free. In like manner the dust falling from the poisonous wall-papers is dangerous when breathed by the inmates of a room. Such dust is even conveyed to other rooms by our senseless habit of dusting with dry cloths upon the floor. Nor does the evil of paper-hanging end here; for coat upon coat of paper and paste, size and paper, may sometimes be found on the walls of a house just got up for an incoming tenant. I have seen seven different paperings, embodying apparently every taste under the sun, taken from the walls of a single room, and the difference to the occupant afterwards was something wonderful.

Ventilation and heating I treat as kindred subjects, and as dependent upon each other as is the boiler and firebox of the engine upon the coal and water of the tender. I have examined in many countries some hundreds of patents, and seen generally, I believe, all that has been most lauded in the way of ventilating houses, and I found that the best systems have always been the simplest. First of all, decide whether you will adopt the common firegrate or the ventilating fireplace. If you adopt the ordinary firegrate in the living rooms—and chose you the old Rumford pattern—supply it with air from without, and it will then cease to draw cold air from the passages and chill your feet as you sit by the fire. Then provide an inlet of cold air, broken up by passing it through a grating, such inlet to be from the floor line as high as one can conveniently reach. As for the outlet, if you have a separate foul air-flue running up alongside the chimney-flue, insert an Arnott's or a Boyle's mica-valved ventilator into that just below the cornice; and if you have no separate shaft, then insert the ventilator into the smoke-flue. I would further recommend a shallow ventilator over the head of each door, the whole width of the door, and with the means of closing it in winter. In summer, when all these are open, the effect is satisfactory. But be sure that the kitchen is well shut off, or well ventilated of itself, with separate inlets and a strongly withdrawing foul-air shaft.

In the case of bedrooms, where common grates are to be used, I would equip the doors with the same ventilating panel overhead. But I would furthermore raise the lower sash of the window three inches, filling up the gap below by a piece of wood stretched across the opening. Provide also the means of lowering the top sash. The lower sash being lifted up, a never-ceasing air current from outside is directed between the meeting bars and driven upward towards the ceiling, being moreover sensibly warmed in its passage. The outlets will be found at the register of the grate or at the valve in the chimney breasts. Mr. R. Rawlinson, who kindly showed me at his own residence windows fitted up upon this system, has expressed himself to the effect that this plan of Dr. Bird's is the best possible arrangement. The living and bed-

rooms thus ventilated, there remains the staircase, which should be provided with an outlet. Mr. Rawlinson lifts up the flat ceiling light a little; and where there is none I would make an opening into the outer air at the highest point, with a protection box to prevent an inward current.

If the owner makes choice of ventilating grates behind or around which a chamber is formed, in which air from without is warmed and allowed to enter the room at or about mantelpiece level, and if the architect has built separate foul-air flues alongside the smoke-flues, I would still provide the valvular ventilators in the chimney breast, because I have seen them act beneficially. But if no such separate flues exist, these should not be inserted in the smoke-flue, as might be done with impunity with a common fire. The behaviour of the hot air, as it issues from the warm air chamber, is to mount to the ceiling, adown the wall, dispersing itself pretty equally throughout the room, and then across the floor to the fire. But although this is so, I would nevertheless introduce some inlets for fresh air during the summer, and moreover retain the power of withdrawing the respired air by means of the foul flue air in the chimney-breast.

When building a house I would always provide the panel over the door and separate air-flues to supply the fires with air for combustion. Between the smoke-flues I also invariably provide a foul-air shaft, terminating a few inches above the ridge on the sheltered side of the chimney stack. In the case of a cottage one such foul-air flue will serve several rooms, but in larger mansions I always make a separate air-withdrawing flue to each room. In the reception-rooms and other large rooms I cause on each wall, during the process of building the walls, a four-inch shaft to be built from the ground line to the eaves, and these can be made to act as inlets or outlets, according to the weather. In the depth of winter they are also readily used for gas calorignens.

I need not, I think, describe the whole-house system of ventilation, although I warmly approve of it, because it must be studied in detail. Here a single inlet of warm or cold air is provided for the whole house, and also one common abstraction shaft as an outlet, with controllable valves and other requisites. It has proved a great success where it has been tried by Drs. Drysdale and Hayward, and if properly attended to will change the air in every room of the house every twenty minutes. I am afraid, however, that the system would be too costly for general use.

I have only one word more to say on this part of the subject; and that is, that whenever possible a vestibule should be constructed in the hall, and the air warmed for the hall use, and for the use of all the passages. The advantage of the ventilating panels over the doors will then also be felt. But the stove or calorignen should be fed with a tube-conveyed stream of pure air to be warmed within it, for delivery into the room. If hot-water pipes or coils are used, bring in all the same the stream of cold air to the under side of the pipes or coils, and save the churning and burning of the air over and over again. Moreover, if there be a coil-case see that it runs on castors and enables the servant to dust the pipes—burnt dust being very offensive.

(To be continued.)

THE SANITARY CONDITION OF DUBLIN.

SOME time since Mr. C. Dennehy, an old member of the Dublin Corporation, prepared a letter for publication, but which was not made public until now, for reasons stated in an introductory letter, that he did not wish it to appear in print during the late sitting of the Parliamentary Committee on the Local Government of Towns in Ireland. He states also, in his introductory letter, that the recently published returns of the Sanitary Committee of the Corporation show a very

* By W. Easle, C.E. Read before the National Health Society, London, June 21, and published in *Sanitary Record*.

low death-rate, and almost an entire absence of serious illness in our city. He holds that this return proves (1) that the River Liffey has not been the cause of injury to the health of the citizens, as has been asserted by the advocates of the main drainage scheme; (2) that when dry weather prevails and opportunities are thereby afforded, ventilation of the dwellings of the inhabitants, as well as opportunities for exercise in the open air, Dublin is essentially a healthy city; and (3) that there never was a necessity for the extravagant main drainage scheme and its enormous outlay, and that a simple system of intercepting sewers, at a moderate cost, would do all that would ever be required for the purification of the river. We thoroughly agree with Mr. Dennehy that the gigantic and preposterous main drainage scheme that was attempted to be carried out in Dublin was not needed, and would have been, under the present financial circumstances of the city, a criminal waste of public money. As to his conclusions as to the general healthfulness of the city of Dublin, and his opinion on the River Liffey, we do not agree.

Passing from his introductory letter to his letter in detail on the sanitary condition of the city, there is much in Mr. Dennehy's lengthened statement with which we concur, but there are other portions which we do not subscribe to. We have so often in these pages dealt with the sanitary—or rather unsanitary—state of Dublin, and the principal causes, that it is not necessary to enter into details on our part. That the state of the Liffey is and has been injurious to the health of the city may be deduced from Mr. Dennehy's own statement, if cause and effect is only studied for a few moments. With respect to the paving materials advised in the conclusion of Mr. Dennehy's letter we do not hold that there is any necessity for going outside this country for them. The Manchester system may be a very good one, and is worthy of a trial, but road-metalling can be procured in several districts in this country quite as good as any to be procured in Wales or elsewhere in the sister kingdoms. While not subscribing to all that Mr. Dennehy has written, yet we willingly give insertion to his opinions, for as an old member of the Corporation he has had considerable experience, and his views on most subjects are characterised by intelligence and earnestness:—

Public attention has been very recently called to the high death-rate and bad sanitary condition of Dublin, and both in the House of Commons and in the Corporation these subjects have been introduced and commented on.

I have had considerable experience in all matters relative to municipal affairs, and also opportunities of obtaining information with reference thereto, and my conviction is that this bad sanitary condition is mainly due to three causes:—

1. The defective state of our main sewers.
2. The want of proper house drains, and the wrong construction of those that exist.
3. The bad formation of nearly all the roadways of our city.

The poisonous gases that emanate from defective sewers and badly-constructed house drains are deadly in their effects; second only to those are the putrid exhalations that constantly arise from the liquid filth which accumulates in the hollows and joints of the stones when the streets are badly or unevenly paved, or when the macadamised surface is full of ruts and holes. The analysis of the surface water taken from the pools in our streets, brought before a meeting at the College of Science some time since, showed what a large amount of liquid impurity is constantly lying on our roadways. This, in evaporating, contaminates the air, and produces disease. Recent scientific investigations have shown that the effects on the human system of breathing impure or contaminated air is to lower the vital powers and induce a susceptibility to disease.

I shall first call attention to the state of the main sewers. Their condition when handed over to the Corporation in 1850, by the late Commissioners of Paving, was described by the Borough Engineer in a report to the Council, dated 1852. He says:—“Immediately after I was appointed to the situation of borough engineer I turned my immediate attention to this most important matter (the sewerage), and made every inquiry to ascertain the amount of

information that existed on the subject amongst the records and plans handed over by the late Paving Board to No. 1 Committee, but found that there never had been a proper map made of the sewerage of the city—the small one possessed by them merely showing in an imperfect manner those streets which have main sewers and those which have not. There was no registry of their size, state of repair, or levels kept at all.” He then goes on to report that he was about laying down on the Ordnance Survey Maps all particulars respecting the state of the sewers, and that he would forthwith proceed to reconstruct and improve them in every way. Nothing can be clearer than the fact that when the Corporation got charge of the sewers they were all in a most defective condition. For some years afterwards a large amount of work was done in making new and repairing old sewers. This work was continued up to the year 1861, when the Corporation commenced the construction of the Vartry Waterworks, which absorbed the attention and occupied the time of the engineering staff of that body; so that, in fact, little has been done since beyond repairs here and there to those sewers. Without going too minutely into details, I will give a proof of this assertion. At different periods during the past few years a considerable amount of illness prevailed in Mountjoy-square and the streets adjacent, mainly caused, in my opinion, by defective sewerage.

Although a member of the Corporation I found the greatest possible difficulty in getting any investigation or examination as to their condition. I succeeded at length last summer in having this done, and when the main sewer in Middle Gardiner-street was opened the part adjoining Great Britain-street was found to be in a most dilapidated state—from that up to Mountjoy-square, the sewage flowed over the clay which it was washing away—as there were neither flagging nor brick inverts in any part of the entire length, the sewage being consequently absorbed into the soil of the street. The sewers of Mountjoy-square commence at the north side at the corner of Upper Gardiner-street, and flowing round the east and along the south side fall into this Middle Gardiner-street sewer; but when the examination took place last summer it was discovered that the floor of the Mountjoy-square sewer was two feet lower than the outfall at Gardiner-street, and consequently there was always two feet of deposit at the south side before the sewage could flow down that street, so that this part of the sewer was merely a cess-pool. But, more remarkable still, the Gardiner-street sewer flows down the street, and then instead of being sent round by Beresford-place into the river, it is turned off opposite Trinity Church, and carried down Frenchman's-lane, round by Store-street, up Amiens-street for some way, then across under the Drogheda Railway to Commons-street, down which it runs into the river. As the whole course of the sewer from Lower Gardiner-street to Commons-street is, I may say, on a dead level, and assuming that there are neither brick inverts nor flagging at the bottom, as I know was the case in Gardiner-street and Mountjoy-square, and as it flows the entire distance over what had been, up to a comparatively recent time, a strand, we can readily imagine that a great part of the sewage will be absorbed into the soil, with results to the health of the inhabitants that may be easily conceived. I will give another instance. Within the last twelve months the workmen of the Corporation might be seen laying down a main sewer in Temple-bar, in that portion of the street which lies between Fownes'-street and Crown-alley. There are houses at either side there, all let in tenements to the working classes, and until the sewer I mention was laid down there never had been a main sewer in this part of the street. Temple-bar is in the very heart of the city, within a few yards of the river, the inhabitants of the very class whose sanitary arrangements should have been looked after by the authorities; yet here we find it has been left for nearly a quarter of a century without any main drainage whatever. My conviction is that the entire of our main sewers would require a thorough examination, and that without any further delay.

There is another great defect in those sewers, and that is the want of proper ventilation. Unless sewers be ventilated, the poisonous gases will ascend into the dwelling-houses and thereby create disease. In Dublin, instead of ventilating our sewers, we seal them up with iron gully-traps, so that, with the view of preventing the sewer gases escaping into the streets, we send them into our houses.

Then, with respect to the house drains, there are 23,756 dwelling-houses in Dublin; 12,228 of those are private houses, and 11,528 set in tenements. Of these houses, 11,644 have pipe house drains—the only really safe or proper ones—6,990 have square brick drains, 4,002 have some kind of

drains not ascertained, and 2,040 have no drains at all. We have here in round numbers 12,032 houses with defective house drains, for none of them are safe but the pipe sewers. The square brick house drains, of which there are nearly 6,000 in the city are all unsafe, for this reason, that it will, on investigation, be nearly always found that the mortar placed in the interstices of the flag covering, has fallen away, and that the sewer gases are freely escaping into the houses. These kind of house drains still exist in very many of the best houses in the city, and are the true cause of the illness which so often extensively prevails in places where, otherwise, all the conditions of health are carefully attended to. As the Corporation have ample powers to compel a proper system of house drains to be adopted, having got a special Act of Parliament in 1861 for the purpose, the default here lies with that body.

I now come to the most important part of my statement, namely, the bad construction of our roadways, which are at present in a worse condition than they ever were before. What is really most censurable in this matter is, that for twenty-four years the subject has been before the Corporation. In an elaborate report of the Borough Engineer to the Council in 1852, he strongly recommends the general adoption of the paving for the streets or roadways in place of the macadam, both with regard to the health of the inhabitants and to the economy of such a system.

The condition of our paved streets at the present time is simply disgraceful; the open joints, filled with liquid filth in wet weather, and throwing out poisonous exhalations at other times, are evidence of gross neglect. Seeing the very bad condition our streets were in, I was recently induced to write to the borough engineer of Manchester on the subject of the roadways of that town, which our own engineer, in 1852, declared were the best he ever saw. I received the following reply, for which I have now to express my best thanks:—

Town Hall, Manchester,

February 14, 1876.

SIR,—Yours of the 2nd inst., addressed to Mr. Lynde, has been handed to me. Our system here is to fill the interstices of the sets in paving with clean-washed pebbles (i.e., free from sand), or stone chippings, passed through a three-quarter inch riddle, and then to pour over molten pitch. The interstices are completely filled up. This we find makes the pavement impervious to surface water, and prevents it percolating to the bed or foundation, and thus causing subsidence. Often in taking up our set pavement, which has been down fifteen or twenty years, we find the bed perfectly dry and the gravel fresh. The pitch we use is the ordinary coal tar pitch, which is boiled down with coal tar or creosote oil to a suitable consistency for running into the interstices as above described. In repairing old streets we pave in about 2 in. gravel, and the sets we use are principally the syenite ones from the neighbourhood of Carnarvon. I may add that the size of the set we ordinarily use is 3½ to 3¾ wide, 6 deep, and 4 to 7 long, and where we have steep gradients or heavy traffic we prefer them an inch deeper (7 in.).—Yours obediently,

S. MASSEY, Chief Clerk.

I look upon the information contained in this letter to be of great value, as it shows how a perfect roadway can be formed. I now, in conclusion, call upon the citizens of Dublin to insist upon having the streets of our city paved in the same way as those of Manchester are. None of the old excuses can be put forward now as to there being no means of carrying out such an improvement. There is ample and abundant means. On a motion of mine a committee of the Council have arranged to borrow £50,000, and have already received a part of this sum to be expended in paving our streets.

Unless the ratepayers of Dublin will insist upon having the work done in the manner suggested by the borough engineer himself in 1852, and so clearly described in the letter of the engineer of Manchester as being so well done there, this money will be expended in making roadways such as those we have at present, which are, as I before remarked, the cause of the bad sanitary condition of our city, and a disgrace to our municipality. We now pay for scavenging and for broken stones nearly £25,000 a year. The greater part of this could be saved if we had the Manchester system of pavement adopted in Dublin.

PAYMENTS.—The competition between granite, asphalt, and wood, as materials for paving the city of London, has at length been finally decided in favour of wood, after many experiments and careful consideration. Mr. Haywood, the City Engineer, calculates that a horse can go 132 miles on granite before being exhausted, 191 on asphalt, and 415 on wood.

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

In a letter written by a French gentleman who visited Edinburgh in 1786, and who stopped for some time in that city for purposes of study, we have some curious impressions. His account of the Scotch *litterati* of that time, to many of whom he was introduced, is somewhat interesting and amusing, as are also his observations on the characteristics of Irishmen, Englishmen, and Scotchmen. Of some of the noted, but afterwards more noted, literary characters of Scotland he writes:—"I have been introduced to Dr. Adam Smith by Dr. Black, one of his intimate friends. The latter has the character of Fontaine united to the genius of Stahl. I mentioned your letter to Dr. Smith; he received it with much politeness and attention, but unluckily the plan of his 'History of Morality and Legislation' is as yet in its infancy. He does not know when his civil occupation, for he is a Commissioner of the Customs, will permit him to finish it. I believe it will not be before four or five years. With regard to his 'History of Poetry, Eloquence, Philosophy, and several other Sciences,' it may perhaps appear in course of two. . . . In a visit which I made to Dr. Priestly his first words were 'I have not the honour of knowing you; are you acquainted with any of my friends?' Upon our replying that we could not pass without showing some mark of our esteem for one who so justly deserved it, he remained confused, without uttering a single syllable, and it was not until the end of a quarter of an hour that we saw the gentleman and the man of letters. The Scotch, it is true, are much more accessible without being at the bottom for communicative. . . . Dr. Ferguson is at present very old and infirm. He sees no company but through politeness. A paralytical disorder has deprived him of his bodily and intellectual faculties. He proposes, however, to publish his course of lectures next year. Dr. Blair has also resigned his professor's chair in order to enjoy the remainder of his old age amidst a very small circle of friends. Both these gentlemen have been succeeded by young men of great merit, who will probably succeed their masters. I have already begun to form a connection with them, and I hope next year to inform you more particularly of their characters. The celebrated Dr. Robertson is the most reserved of the whole. He was formerly, you know, minister of a country parish. His 'History of Scotland' procured him a living in Edinburgh, and soon after some sermons of great merit raised him to be principal of the University and Professor of History. He read lectures only for two years, and has obtained permission to give himself up entirely to study. Since that time he has spent his life among books and a very small number of friends. I was introduced to him by our bishop. I was much struck by his physiognomy, in which Lavater without doubt would have found the eyes of Thucydides with the contour of Herodotus. He is in general well made, announces a man of great character, and is remarkably intelligent and polite. The physiognomy of Dr. Smith announces more simplicity and love of mankind. He has the forehead of Homer, eyes full of fire, and the lower part of his visage greatly resembles that of Crebillon the Father, without any severity; openness, good nature, and integrity appear in all his actions. I dined with him last week, and enjoyed the high pleasure of seeing genius concealing under the character of an excellent father of a family an amiable and lively companion. Dr. Miller does not reside here, but in Glasgow. There are here several other great men whose names have not yet passed into France, as the authors of 'The Man of Feeling' and 'The Man of the World,' Dr. Blacklock, and Dr. Cullen."

This portraiture of Scotch literary character nearly a century since is very interesting, but it would be more so if we knew the name of the writer and his correspondent. The

letter appears at length in the "Literary Magazine," of December, 1788, as a translation from the French. Speaking of the distinguishing characteristics of the three nations, the French writer further observes: "The contrast between Dover and Calais is, in every respect, so great that one would almost imagine one's-self transported to the other end of the globe. The difference vanishes as you approach Scotland, in which many traces may be found of its ancient intercourse with France. The English—those who are properly so called—appear to me to be less polished than either Irish or Scotch; and, in this respect, more than two centuries behind us. Fond of order and neatness, preferring the solid to the brilliant, convenience to delicacy, and abundance to voluptuous enjoyment, they have something savage and unsociable; and, if I may be allowed the expression, something disagreeable and stiff, which appears disgusting. [The writer is, perhaps, here alluding to the lower classes of the people at that time.] The Scotch, on the other hand, are affable and engaging; mild, yet irascible at the same time; sly and ingenious; and fond of the arts and of luxury. The women are well made, exhibit much taste, and have received, as if by tradition from their connection with us, a peculiar turn which gives them a great resemblance to the ladies of France. Nothing surprised me more than to find here at the assemblies the same manners and the same dresses as I had left in Paris. The English women are in general very pretty, their melancholy air, their long flowing hair, without any other ornament than the charms of nature, and their simple and pastoral dress, all announce the heroines of romance. The Irish seem to hold a middle place between the two nations; they are more communicative than the English, often even insinuating and intriguing, and more rude and noisy than the Scotch. We have here a great number of individuals of the four nations—English, American, Scotch, and Irish—but it is very easy to distinguish them on the first view, as well as by their dialect. Pride of character, vigour of body, a bold and imperious front announce the Englishman. The Irishman is more pliant, yet rude at the same time, shows he has a desire to rule and form factions. The Scotchman, canny and shrewd, makes his advances by giving you to understand that he wishes to be paid in return, he is not so proud as an Englishman, but more impatient of an insult. The American is extremely mild, and partakes much of the French character."

There is a good deal of the above portraiture of character holds good at the present hour, despite of the close unity of nations brought about by the spread of education and modern facilities for travel. The picture is worth reproducing, if it were only to remind us of what has been thought of our manners and habits in the past by some "illustrious stranger," who came to study and take note of our characteristics in "The Land o' Cakes and brither Scots."

Joseph Cooper Walker, the antiquary, in a note to his "Essay on the Rise and Progress of Gardening in Ireland," says that "perhaps the first attempt at modern gardening in this country was made by the noted Rev. Dr. Delany at Delville, Glasnevin." Like Pope he impressed a vast deal of beauty on a very small spot of ground. Nor is it improbable that Pope, with whom he lived in habits of intimacy, taught him often to soften into a curve the obdurate straight line of the Dutch, to melt the terrace into a swelling bank, and to open his walk to the vicinal country. These gardens still remain a monument to Delany's taste. Swift has left a humorous description, in which, though he has contracted the features, has preserved the likeness. Delville, Delany's residence in the last century, has had many notable occupants since. We believe it is at present occupied by P. J. Keenan, Esq., C.B., a gentleman long connected with the Irish National Schools and Board of Education.

On an eminence in these grounds many years ago, and may be still for aught the writer knows, was a temple decorated by Mrs. Delany, and a medallion bust of Mrs. Johnson, the "Stella" of Swift. Beneath this building, it has been stated, was found by a former proprietor the remains of a printing-press, said to be used by Swift in printing his satires upon the Irish Parliament. The house and domestic chapel in our young days retained much of their original character.

In the graveyard of the ivy-covered church in the old village of Glasnevin there is a tablet to the memory of Dr. Delany. A school-house was founded and built in this village also by Delany. A belief has been entertained by many that Robert Emmett was secretly conveyed and buried in old Glasnevin graveyard, instead of in Saint Michan's. A field called "Bloody Acre" in this locality is associated with the battle of Clontarf, tradition pointing it out as the site of that memorable struggle. The retreating Danes may have given battle to Brian on, or in the vicinity of, this spot, but without doubt the decisive encounter took place near the shores of Clontarf.

Speaking of modern gardening, it will not be amiss to mention here that at Clonliffe, now the grounds of Clonliffe College, Tristram Fortick once had a remarkable garden. Plants, trees and, shrubs were to be seen here growing in various positions, figures of men and their arms cut in yew and box, and also figures of colossal birds. Fortick's house was subsequently occupied by the noted Frederick Jones, the lessee of old Crow-street Theatre. Tristram Fortick was the founder of the alms house still existing in Denmark-street in this city. In a house called the "Rose Tavern" in Drumcondra-lane, now Dorset-street, was held the meetings of the "Florist Club," founded by some Huguenots in connection with some of our citizens in the reign of George I. The club existed for many years, and premiums were given for those who produced the most beautiful flowers. The localities of Glasnevin and Clontarf, it will be seen, are associated not only with great names, as local and general records would tell, but also with the history of modern gardening in Ireland.

Cathir the Great, the 120th King of Ireland, died possessed of valuable property, judged alone by his legacies. When we consider that these matters belong to A.D. 171 it will show to what a high degree art and handicraft had reached, even in Pagan times, in this country. Some of the articles we are about to enumerate were doubtless won by Cathir in his conquests, some may have come from foreign countries, but others were the produce of native art. Before Cathir fell at the battle of Taltin, according to O'Flaherty ("Ogygia"), he ordered his son Ross Faelge to give the following legacies to the rest of his sons and to the other nobles of Leinster—To Bressal Enachlas five ships of burden, fifty bossed shields inlaid with silver and gold round the edges, five golden-hilted swords, and five chariots with their horses; to Fiach Bacche fifty goblets, fifty cups or dishes of yew, fifty dappled horses with brazen bits; to Tuathal Tigech, his nephew by his brother Mann, ten chariots with their horses, five pair of tables, five chess boards, thirty bossed shields with edges elegantly inlaid with gold and silver, and fifty polished swords; to Daire Barry one hundred and fifty round spears with silver blades, fifty shields in cases of gold and silver, richly carved, fifty swords of a peculiar workmanship, five rings of gold ten times melted, one hundred and fifty cloaks variegated with Babylonian Art, seven military standards; to Crimthan fifty hurling balls made of brass, with an equal number of brazen hurls, ten pair of tables on an elegant construction, two chess boards with their men, distinguished with their specks and power, on which account he was constituted master of the games in Leinster. The following bequests were given to Mogcorb, the son of Laogar Birnbuadhach:—A hundred cows

stroaked with white and with red ears, with as many bull calves, yoked two and two, a hundred shields, a hundred red spears, a hundred white javelins, fifty saffron-coloured cloaks, a hundred golden thorns, a hundred horses different in colour, a hundred goblets of beautiful workmanship, a hundred cups of yew, fifty chariots most magnificently adorned, ten of which were of singular workmanship, fifty pair of tables, fifty other pair of tables of quite a different sort, with which wrestlers played, fifty trumpets, fifty brass kettles, fifty standards, with authority to be Prime Minister to the King of Leinster. The King of Leinster got a hundred cows, a hundred shields, a hundred spears, and seven standards. He executed all his father's commands with the greatest punctuality in this respect. Leaving out the live stock, here was a good museum in itself. Were such like articles dug up now intact on the plains of Troy, what a Homeric blaze would not there be over Europe, and what an anxiety would not be felt to procure such specimens for the British Museum. Irish soil is no doubt thick with relics of the Pagan and Christian past, from the days of the Tuatha de Danaans to centuries after Cathir the Great was gathered to his fathers. Much is recoverable, and much more irrecoverable, and the last of our valuable antiquarian "finds" in Ireland is long distant. Slowly, but not less surely, however, Irish earth is giving up its treasures, and yearly proving the truth of the historian's text.

H.

CORRESPONDENCE.

ARTIZANS' DWELLINGS, AND THEIR PLANNING.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—I am not one of those who indulge in the selfish spirit attributed by Mr. Drew to those whose business it is to study, like himself, a Labourer's Dwelling; and, as "there is some obligation on those who think they have a useful hint to give," I venture to submit one or two for your professional readers to visit their censure on, in such happy terms as, "Cod of a thing!" "—humbug!" and "insane ideas!"—these being the pet phrases of some architectural critics.

The sanitary arrangement of dwellings of this class is of vast importance, but it is *not* the first consideration; for it should be remembered, that so long as there exists a commingling of the sexes in a room common to both, so long will that deplorable depravity continue, which suppresses all sense of decency, and banishes all desire to improve, and the outcome of which is a stimulation of every vice that is hideous.

It may be said that the artisan is above this; but it requires little observation to find that the reverse is the rule, and, where it is not, the artisan has, and can well afford to keep, a better habitation than either the Peabody or Waterlow can offer. I hold, therefore, that it is the duty of the architect to design in order to check this evil, and of the Company to enforce a better system; and, when such a desirable result has been achieved, it will be time enough to consider sanitary arrangements.

With a system of separate bed-rooms must come a separate means of ventilation to each, and there is no simpler mode than a fireplace, which not only acts in itself as a ventilation shaft, but gives a facility for carrying up independent vents, as foul air shafts, which, in a room necessarily small, are much to be desired. Besides this, in many a case of sickness too slight in its nature for removal to an hospital, a fire can be had for the comfort of the sufferer. Fresh air inlets, both to fires and rooms, should also be introduced; but these are probably covered by the suggestive phrase, "Unobjectionably ventilated."

Coming to the question of privies, it appears to me that the impetus of falling water

through "a sewer standing on end," powerful as it would be, would still be insufficient to prevent the effluvia rising through a flap that could never lie close, unless it were too heavy to move by the weight of the deposit, and the water from a small sink would be totally inadequate to flush the pan, it being generally of nearly as filthy a nature as the nuisance it is sought to remedy. This evil could be met by using the self-acting earth system to each, the bucket being emptied every night and carted away with the dust. This would leave the house free from all bad vapours and unpleasant odours, which come from all badly-constructed w.c.'s, and would be especially so in this case where the habit of shutting doors is seldom cultivated.

It seems to me that in a large establishment a little outlay in looking after the sanitary arrangements is as necessary as the sanitary arrangements themselves. A staff of two or three men, working a few hours in the night, would amply suffice for this service. It is a poor apology for the laziness of a servant that the flushing apparatus must have connection with the ground-floor for his convenience. Men paid to perform a certain duty, and failing through laziness, should be made to bear the consequences.

I am not aware if the "City Fathers" have power to prohibit an earth system in Dublin, but I am aware that it was proposed in the main drainage scheme, and therefore I suggest it in this case.

I thank Mr. Drew for (in spite of his fears) bringing the matter forward in a professional paper, so that those who care for such can study it instead of burying it in the columns of an evening journal, whose circulation in professional circles must necessarily be limited.—I am, sir, &c.,

A TEE-SQUARE.

POORHOUSE, OR WORKHOUSE?

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Though not called upon to contribute quite as much poor's rate as many of my neighbours, I yet read the account of the meeting of the Guardians of the South Dublin Union with considerable interest. I find that this establishment is almost invariably referred to and designated, as well in official documents as in the speeches of the guardians, as "*the workhouse*." A "*workhouse*," as I can conceive of it, is a house where "*work*" is done; but in all the returns and reports I have seen, I have never observed any reference to any kind of "*work*" performed in the union. I infer, therefore, that the true designation of the house should be "*poor-house*." To make this matter plain to the public generally, would it not be desirable, in addition to the stereotyped intelligence that there are some 2,000 inmates or more, if we were informed, on the certificate of the physicians, how many of these are able-bodied persons, and capable of "*work*"? It has occurred to me that if industrial pursuits were insisted upon and carried out here, vigorously and continuously, on the part of both males, females, and children, suited to occupation, and according to the different trades of many, and this work profitably disposed of, the proceeds might go a good way to defray the expenses of this overgrown establishment, and thus tend greatly to lighten taxation. The weekly returns might give a detailed statement of the work in hand—work done—work sold—profits. The adoption of such a plan as this might deter many from entering the poor-house who could sustain themselves out of it, and fit those who are there for profitable occupation when they leave. It appears to me to be a good motto for a workhouse, "If any man will not work, neither shall he eat," nor be supplied with "*stimulants*." THOMAS MILLS, M.A., August 9, 1876. Vicar of St. Jude's.

[Very pertinent remarks.—ED. I. B.]

DOES OOLITE EXIST IN MAYO?

We have received the annexed letter from Mr. Hughes, the author of "*Geological Notes*," &c., reviewed in our last issue. On referring to Mr. Wilkinson's "*Ancient Architecture and Practical Geology of Ireland*," we find our belief confirmed as to the occurrence of oolite in the carboniferous system on the shores of Killala Bay, county Mayo. Professor Hull, Professor of Geology and

Director of the Geological Survey of Ireland, in his work on the "*Building and Ornamental Stones of Great Britain and Foreign Countries*," also mentions the occurrence of oolite in the locality above stated, and quotes Mr. Wilkinson on this point, and in other particulars.

SIR,—In your remarks upon "*Geological Notes of Ireland*" in last number of the IRISH BUILDER, you take exception to my statement that "*oolite*" occurs only in Antrim and Derry. You say you believe it to exist in the carboniferous system on the shores of Killala Bay, County Mayo. In the preparation of my book I have been at no little trouble in consulting all the geological authorities obtainable in reference to Irish counties. I find in none of them is "*oolite*" mentioned as occurring in Mayo, but yellow sandstone does, as mentioned in my "*Notes*," and possibly may be mistaken for "*oolite*" at a superficial glance. I think it is due to me to make this correction. Although I have visited almost all the ruined abbeys in Ireland, I have never been to Moyne, and it might be, if I had, I could be mistaken in the materials of its construction unless I carefully examined the stones.

W. HUGHES.

BELFAST
NATURALISTS' FIELD CLUB.

On the 1st inst., the fourth excursion of the club for this season took place. The party met punctually at the Northern Counties Railway terminus, at noon, and started in accordance with their programme.

The first halt was at the town of Limavady, until lately better known by the prefix of Newtown, which has been most properly dropped by parliamentary licence, and the ancient name, signifying "*The Dog's Leap*," reassumed. Although the cloudy condition of the atmosphere portended rain, the first part of the programme was carried out during the evening; and after dinner a visit was paid to O'Cahan's Rock, and the site of the residence of the last chieftain of that name, on the banks of the Roe. The beauty of the surrounding scenery amply repaid the walk of some three miles to this interesting spot, and some rare plants were discovered by the botanists of the party. The locality abounds with traditions connected with the names of the hostile clans, MacDonnell and O'Cahan, some of which were detailed to the party during their walk by inhabitants on the spot. Among other places of interest they were shown the position at the site of O'Cahan's Castle whence that chieftain was accustomed, as a pastime, to view those of the hostile tribe who were suspended on the trees overhanging the Roe, which flows beneath the rock.

The Alexandra Arms Hotel was regained at the "*gloaming*," and on the following morning the whole party started for Dungiven, the second station on their route. During the drive the beautiful locality of Carrickrock was visited, with the tasteful church—a modern erection—in its immediate vicinity. The scenery here remarkably resembles that of O'Cahan's Rock, the River Roe winding between the steep declivities on both sides, the banks of which present a strikingly beautiful view from a slight wooden bridge which spans the river. At this point of the excursion the rain, which threatened at the outset, commenced and continued without cessation during the entire day. The members of the club, however, true to their antecedents, continued their course towards Dungiven, diverging *en route* to visit Pellipar, the elegant mansion of R. L. Ogilvie, Esq. This visit was paid through the courteous invitation of Canon Ross, rector of Dungiven, who met the party and conducted them through the several apartments, which contain the well-known and splendid collection of paintings for which Pellipar is celebrated. Few private collections in Ireland can compare with this one in its riches of pictorial art, comprising, as it does, some masterpieces from Murillo, Rubens, Snyder, and others of the earlier foreign schools, as well as many gems of modern art.

The remainder of this day (Wednesday) was spent in exploring some of the glens in

the neighbourhood of Dungiven, Canon Ross (who is intimately acquainted with their beautiful and romantic recesses) acting here also as guide. Although the rain descended in anything but an encouraging form, the party were enabled to accomplish their purpose in penetrating to the beautiful waterfall of Lignapeiste, and met with several rare and interesting ferns and other plants during their walk. The geological features of this remarkable district proved interesting also, particularly an outcrop of the primary limestone in contiguity with the trap rock, and assuming a metamorphic character. During their inspection of the waterfall at Lignapeiste—which name implies, in the Celtic tongue, “the den or cave of the monster,”—the party were entertained by some of the natives relating to them the traditions of St. Muiredach O’Heney, who confined to that spot, and bound beneath its waters, a savage beast or serpent which infested the glen, by first becoming familiarly acquainted with the monster, and then by way of civility placing three rushes on its head. These glens are still inhabited by an aboriginal Irish-speaking race, among whom such traditions are preserved in abundance, and, as report has it, the poems of Ossian are here recited to this day in their original Gaelic language.

On their return journey to Limavady, the excursionists visited a very remarkable kistvaen, and afterwards the ruins of the ancient church of Banagher, which, with the adjoining building—both partly cyclopean in their structure,—are amongst the most interesting ecclesiastical remains in Ulster. The latter was unquestionably a place of residence, most worthy of the chief pastor of the district; and in the graveyard annexed an ancient burial-place and tomb are shown, said to be that of St. O’Heney. These ecclesiastical remains date, as to their origin, from the fifth century, and are extremely interesting. Notwithstanding the increasing inclemency of the evening, some of the party visited, before leaving Dungiven, its ancient church, which stands about a mile from the town. This structure is of twelfth-century date, and contains an altar tomb, with superincumbent effigy (a sketch of which, by a local archaeologist, we may promise to our readers) of one of the chieftans, probably the last of the O’Cahan family. The eastern gable still stands, and, through the laudable exertions of Canon Ross, some of the stone mullions of its windows, the walls of the nave, and other parts of the ancient structure have been preserved from falling into utter decay. The members of the club were hospitably entertained at tea by Canon Ross and his excellent lady, and shortly after left for Limavady, which they soon reached, to enjoy a night’s repose, rendered extremely acceptable by the proceedings of the day, interesting as they proved, although carried out under a continuous rainfall.

On the following morning (Thursday) some of the party extended their route to the city of Londonderry, to which they were enabled to pay a passing visit, and to rejoin their fellow-excursionists at Limavady Junction on their return homewards. Some others, although the rain threatened, visited a portion of the adjoining parish of Balteagh, in the neighbourhood of Keady Hill, and afterwards enjoyed a passing view of Dreenagh, the beautiful residence of C. T. McCausland, Esq., through which they were courteously conducted by that gentleman, having been introduced by the Rev. Knox Homan, rector of Balteagh, who accompanied them. The botanists of the party, here and in the immediate neighbourhood, added to the list of plants observed, the following:—*Sambucus ebulus* (dwarf elder), *fœniculum vulgare* (fennel), *arctostaphylos uva-ursi* (bear berry); and also, along the cliffs of Ben Evenagh, whither their walk was extended before their return homeward, *deyas octopetala* and *silene acaulis*.

While noticing objects of interest pertaining to the natural history of the excursion, it would be unpardonable to omit one which appeared to the members of the club who

were favoured by a sight of it deserving more than a passing record. Before they left Limavady a lady residing there kindly exhibited to the excursionists a seagull, of the heron species, which had been in her possession and under her constant oversight for the space of forty-two years. This bird, although thus aged, is still, so to speak, possessed of all its faculties. The bill is overgrown somewhat and bent, crossing at its extremity, and the gait of this extraordinary bird somewhat affected by its longevity, but still it is comparatively active, and, when under inspection, quite able to hold its own with the poultry in the yard, who crowded around to share the food which the lady threw to it, and of which it partook with apparently an excellent appetite.

The party reached Belfast on the evening of this day (Thursday), having thoroughly enjoyed their trip, notwithstanding the unfavourable nature of the weather, and without a single accident or disappointment, their programme having been carried out with nearly entire completion.

THE ROYAL ARCHÆOLOGICAL INSTITUTE.

On the 1st inst., the date of our last issue, the annual meeting of the Royal Archæological Institute commenced at Colchester. The Mayor and Corporation received Lord Talbot de Malahide (the president) and the members of the Institute at the Town Hall and gave them a hearty welcome. The Town Clerk read an address of welcome, in course of which many matters of local archæological interest were treated upon. Lord Talbot de Malahide made a suitable reply. After some other formal addresses of welcome on the part of other societies a luncheon was partaken of by the members and visitors at the Corn Exchange. An adjournment was then made to the Town Hall where Lord Carlingford proceeded to deliver his inaugural address, in the concluding portion of which he spoke pertinently of the question of State interference in the preservation of our national monuments, and of the efforts now being made in that desirable direction.

In the evening the historical section was opened, when Mr. D. E. Freeman delivered an address on the “Early History of Colchester.” On Wednesday, the second day, several excursions to places of interest in the locality were made. On Thursday the Architectural Section was opened in the lecture room of the Literary Institution, and in the absence of the president of the section (Mr. Beresford Hope) the chair was occupied by Mr. J. H. Parker. The first paper read here was by Mr. Charles Foster Hayward, “The Nunnery of Layer Marney.” After some discussion, Mr. F. Chancellor of Chelmsford read a paper on “The Chapel of St. Peter On-the-Wall.” In the evening a second meeting of the Historical Section was held in the Town Hall, Dr. Freeman presiding, when the Rev. Barton Lodge read a “Memoir of Eudo Dapifer,” a worthy of local historic note, and a great benefactor of the town. Thursday evening was spent on the part of several of the members in visiting and examining objects of interest in the town of Colchester. In the evening, a conversazione of the members of the Institute and of the Essex Archæological Society was held in the Castle, when a distinguished company was brought together. The museum, castle, vaults, cells, &c., were brilliantly lit up. During the evening the Rev. C. L. Acland, Head-master of the Royal Grammar School, gave an interesting notice of that foundation. At the conclusion of the paper, Mr. Stephen Tucker (*Rouge Croix*) expressed an opinion that the records of the Grammar School should be published, as they were of historic value.

On Friday an excursion was made to Copford, Layer Marney, Beeleigh Abbey, and Malden. Mr. Foster Hayward described Copford Church and the mural paintings with which the chancel is adorned. Some

remarks were also made by Mr. J. H. Parker and Sir Gilbert Scott in reference to the church and the paintings. The former said it was a remarkable Norman church, that it had originally a chantry chapel and a rood loft, and that the design was of the twelfth century. Sir Gilbert Scott remarked that the paintings were a most surprising and valuable discovery, and, excepting the chapel in Canterbury Cathedral, he had never seen anything like it.

Layer Marney was next visited under the guidance of Mr. Hayward, the party being conducted over the tower, the wing dormitories, and the church. After some hospitalities, the party proceeded to Meldon, visiting the town hall, churches, Dr. Plume’s library, and Beeleigh Abbey, where are to be seen some carved and groined roofs.

We are unable to afford space for a lengthened detail of the proceedings of the Institute, but we may return to the subject in our next by way of *finis*.

THE ARTISANS’ DWELLINGS ACT, 1875.

The Corporation met on Saturday for the purpose of considering reports made by its officers on unhealthy areas in the city, and the advisability of clearing them so as to enable a company to undertake the erection of suitable dwellings for workmen. A committee was appointed to prepare a scheme. We hope to refer at length to the matter in our next issue.

THE NEW BRIDGES.

At a meeting of the Corporation held yesterday, the Deputy Town Clerk read a letter from the Secretary of the Port and Docks Board enclosing copies of resolutions adopted at a meeting of that body held on the 27th ult., in reference to the re-building of Carlisle Bridge and the construction of a new opening bridge:—(1) “Resolved that the plan for re-building Carlisle Bridge, signed by the chairman and secretary, be approved and adopted, and the board hereby estimate the amount which will be necessary for taking down and removing Carlisle Bridge, and building a new bridge on the site thereof, with approaches and works incidental thereto, in accordance with the provisions of the Dublin Port and Docks Board (Bridges) Act, 1876, at the sum of £68,000; and the board further estimate the amount of money, which must be borrowed under the provisions of the said act for the purpose aforesaid, at the sum of £68,000; and (2) the board also approve of the plan for the new opening bridge, as signed by the chairman and the secretary, and do estimate the amount which will be necessary for constructing the said new opening bridge, and all works incidental thereto, in accordance with the same act, at the sum of £47,000, and further estimate the amount of money which must be borrowed under the provisions of the said act for the erection of the said opening bridge at the sum of £47,000.” The matter has been referred to a committee of the “whole house.”

HOME AND FOREIGN NOTES.

FALL OF A DOCKYARD WALL.—On Saturday night one of the side walls of the new Avonmouth Dock, in course of construction near Bristol, fell in, carrying with it one of the large warehouses erected on its banks. The dock was completed, and was to have been shortly opened.

STRIKE IN BELFAST.—The employés of Messrs. Harland and Wolff, the extensive iron ship-builders of Belfast, have gone out on strike. They number upwards of 2,000 men and boys. Lately Messrs. Harland and Wolff gave notice to their workers that they would be required to work three hours extra per week at the present rate of wages, or if inclined to work the old hours, that they would have to submit to a reduction in their wages of 5 per cent.

THE BELFAST EXHIBITION.—The Industrial Exhibition, which was opened in the Ulster Hall, Belfast, on May 23rd, by his Grace the Duke of Abercorn, came to a close on Saturday afternoon. It was got up in aid of the funds of the Belfast Working Men's Institute and Temperance Hall, and some £2,800 has been realised by the project.

ASSISTANT SURVEYORS' SALARIES.—The Grand Jury empanelled at the Londonderry Assizes, having received an application from the assistant surveyors, requesting a recommendation, by resolution or otherwise, of the application they are about to make to the Chief Secretary for Ireland to introduce a Bill to empower Grand Juries to increase their salaries and grant them superannuation allowances, it was resolved—"That we recommend the application about to be made by the assistant county surveyors to the favourable consideration of the Chief Secretary for Ireland, and we request that he will take the necessary steps to introduce a Bill to empower Grand Juries to comply with their application.—H. Hervey Bruce, Foreman."

ROYAL ASSOCIATION FOR THE PROMOTION OF THE FINE ARTS.—At the annual meeting of this association in Edinburgh the report brought up stated that the year had closed with a subscription list of 5,232 members, and that there had been an increase in the number of subscribers in Edinburgh. The actual amount subscribed was £5,493 12s. The aggregate value of the works to be distributed amounted to £1,887 4s., being upwards of £50 in excess of the sum expended last year. The report was unanimously adopted. The drawing of prizes then took place. Amongst the winners were the following:—"Peter Peebles," £120—J. Richardson, Geelong; "On the Falloch," £100—R. G. A. Walls, Otago; "Fast Castle," £25—Robert Reid, manufacturer, Dunfermline; "Harvest," by J. Farquharson, £250—J. D. Ross, New Brunswick; "The Bridge of Ire," £15 15s.—James Cumming, Annesley, Arbroath; "Brambles," £88s.—D. Berwick, farmer, Collairnie, Fife.

M'CARTER'S CONDENSER, WITHOUT AIR-PUMP, FOR STEAM ENGINES.—A paper was read last week before the Institution of Mechanical Engineers at Birmingham, from which we (*Iron*) extract the following:—"The late John Walker M'Carter of Londonderry, was the inventor of the condenser that formed the special subject of the present paper, and he made further improvements in subsequent years for perfecting his original invention. M'Carter's condenser takes as a basis the ordinary condenser, and adheres pretty much to the present recognised proportion, admitting the exhaust steam and injection water in the usual way. To dispense with the air-pump was the object he had in view, and to substitute a simpler and less costly mode of discharging the water and air that continually accumulates in the condenser when at work, and, at the same time, be enabled to place the condenser in any position with respect to the cylinder. This condenser draws its own injection, and can be placed so as to allow the waste water to flow back again to any desired level. The condenser is provided with a small auxiliary condenser placed at the bottom of the condenser proper, connected to the ordinary condenser by the rubber valves. These two valves are worked by means of forming a vacuum in the auxiliary condenser by introducing a separate jet of steam and water, supplied alternately by independent mechanical means, thereby alternately destroying and creating a vacuum. The act of creating this vacuum enables the two intermediate valves to open, forming a connection with the condenser proper, thereby allowing the products of condensation to flow into the auxiliary condenser, and the destroying the vacuum by a jet of steam admitted into the auxiliary condenser causes the two intermediate valves to close, and at the same moment the delivery valve in the hot-well opens, thereby discharging the hot water and air, which flow away in the ordinary manner. A brief discussion followed the reading of this paper, in which Messrs. Cochrane, Olrich, Siemens, Bramwell, and Adams took part.

FRENCH BARRACKS.—In a communication lately addressed (says the *Broad Arrow*) to the French Academy of Sciences, M. Tollet has described the principles adopted in the new barracks building under his direction at Bourges, Autun, and Cosnes. Those at Bourges, for the artillery, were sufficiently advanced towards completion last spring to receive the men and a portion of the horses intended to occupy them. The barracks were minutely inspected by a medical commission, and the sanitary condition reported so perfect as to justify their appropriation as a convalescent depot in time of war. Although the very best materials have been used, the cost has been 300 francs less per man, and 50 to 60 francs less per horse, or

600,000 or 800,000 francs (£25,000 to £35,000) less for a regiment of artillery than that of the old French barracks. The principles of design and construction are thus enumerated by M. Tollet as well suited to hospitals and other erections besides barracks:—"The buildings to be outside the town; on permeable soil, with a good water supply. To be distributed over as wide an area as possible. To be in separate blocks; no block to hold more than fifty soldiers or thirty hospital patients, the latter to be distributed between at least two ward-rooms. The blocks to be separated by spaces equal to at least twice the height of the buildings. No building to be more than one storey. Where there are two or more floors, the lower rooms infect the upper. Besides, climbing a stair is a needless tax on the sick. As much physical effort is expended in mounting 30 ft. of stairs as in walking 130 yds. Great economy of building material can, it is found, thus be secured. In two storey buildings it takes, on an average, ten to twelve cubic yards of stuff to house one man. In buildings with a single floor two to three cubic yards suffice. The barrack-room, sick quarters, stables, canteen, kitchens, and magazines are all separate buildings. The design is such as to give the maximum of air space with a minimum of building material. Incombustible materials only to be used. The interior of the buildings to be curvilinear in outline, so as to leave no corners for the accumulation of dust. Ceilings and lofts are proscribed, as tending to arrest the escape of the vitiated air. The floor of each building to be raised three steps above the surface of the ground, on a solid mass of concrete, surfaced with some impermeable material in place of wooden flooring. The windows to be as numerous as possible, opening at top as well as at bottom. Where windows open their whole length they are often kept closed altogether. Ventilators in sufficient number to be placed in the roof and kept permanently open."

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PRESS NOTICES.

Athenæum.—We cannot now continue an examination of the contents of Mr. Brash's capital book. Let it suffice them that we recommend the perusal of the chapters on the churches of the Cistercian Order, Fonts, some of which have curious peculiarities, Masonry, and Early Christian Masonry. . . . Mr. Brash is a painstaking and accomplished student.

Academy.—Since Petrie gave to the public his (alas!) unfinished work on the Ecclesiastical Architecture of Ireland previous to the Anglo-Norman Invasion, the work which heads this article is the most important and valuable contribution to an interesting and almost unexplored branch of knowledge. . . . The volume does great credit to the enterprising publisher.

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The Irish Builder.

VOL. XVIII.—No. 401.

Public Works in Ireland.*

THIRD NOTICE.

NATIONAL MONUMENTS AND ECCLESIASTICAL RUINS.



T is now pretty generally known that under the provisions of the 25th section of the "Irish Church Act, 1869," a number of the ruinous but admirable specimens of ancient Irish architecture, national and ecclesiastical, have been handed over to the Board of Works by the Church Temporalities Commissioners for future preservation and maintenance. Some months ago Mr. T. N. Deane, a native architect of ability, was appointed by the Government to take immediate charge of these ruins. The instructions given to Mr. Deane were strictly confined to doing what was necessary for their preservation. Loose stones were to be secured; the infiltration of water prevented by necessary repairs; rubbish was to be cleared away from the base, whereby portions of buildings hidden might be brought to view and seen to better advantage; but "restoration," as generally understood, was to be carefully avoided, or the doing of anything which might mar the ancient and picturesque character of the ruins.

The monuments under the charge of Mr. Deane are: Rock of Cashel; Devenish Church and Tower; Donaghmore Cross; Donaghmore Church and Tower; St. Columb's House, Kells; Killala Round Tower; Killamery Cross; Kilkeeran Cross; two Crosses, Killeslin; Ardmore Cathedral and Round Tower; St. Declan's Tomb; Ruins, Seven Churches, Glendalough; Ardferth Cathedral and two Churches; Gallerus Church, parish of Kilmalchedar; and Cashel Cathedral. The greater number of these Mr. Deane has already visited and reported upon, but in the Appendix E of the Forty-Fourth Report of the Commissioners under notice we have a special and important report, copiously illustrated with drawings, in relation to works of reparation at Cashel, Glendalough, and Ardmore. We believe that some adverse criticisms have been made in respect to portions of the works of reparation carried out by Mr. Deane, but, as far as we are able to judge at present, we believe that he is endeavouring to perform his duty.

The question of "restoration" has given rise within late years to much writing, and few are agreed as to what really constitutes a "restoration." If Mr. Deane strictly carries out his instructions, he will run little chance of being accused of effecting an uncalled-for "restoration" where a simple "reparation" alone was needed. His own words in the opening of his report are—"I have in the strictest manner complied with what was my leading instruction, that no work constituting a restoration should be done, further than was absolutely necessary for the safety of the building."

We, as honest critics, are bound to accept

Mr. Deane's words and report in detail as a fair statement of work accomplished, in the absence of any personal examinations on our part. The drawings that accompany the report afford a pretty clear idea of the peculiarities of the structures under Mr. Deane's charge, and, together with the explanations, we are able to understand the nature and whereabouts of the needful reparations. Of course a personal inspection would be preferable if adverse criticism was intended, but we have no intention to fault-find when we know the conserving architect is conscientiously endeavouring to do his duty.

Those who are acquainted with the late George Petrie's work on the "Round Towers and Ancient Architecture of Ireland," or who have followed our late series of articles, "The Literature of Gothic Architecture in Ireland," will be in possession of information which will be very useful to them in perusing Mr. Deane's report on "National Monuments and Ecclesiastical Ruins." A reference to the late R. Rolt Brash's "Ecclesiastical Architectural of Ireland to the close of the Twelfth Century," recently published, and which appeared originally in the IRISH BUILDER under the form of "Notes on the Ancient Ecclesiastical Architecture of Ireland," will also be found most useful to the readers of Mr. Deane's report, on account of the full details it gives of the history and architectural peculiarities of several of the works under the charge of Mr. Deane.

In respect to the works at the Rock of Cashel, Mr. Deane's supplementary report sets forth what has been done, and how the money granted has been expended. As he anticipated, many things have arisen during the progress of the works which have caused modifications and changes in what he previously recommended. In King Cormac's Chapel especially, we are informed, matters of interest have arisen connected with its original plan, as well as matters of detail which have been carefully recorded. Matters of detail and interest noted by Mr. Deane, to be properly understood, would need on our part the reproduction of some of his drawings, but among our readers there are many who will understand the noted peculiarities in connection at King Cormac's Chapel without such aid. Mr. Deane observes that the outer portion of the wall at the east end behind the altar was modern work, which on being removed was found to conceal two small windows which cast a side-light upon the altar. These windows had circular heads on the outside, square to the interior, open wider at base than head. That on the south side is on the same plane as the wall at B, but on the north the heads and jambs to the outside are set at an angle of 30° to the plane of the north wall. To account for this the following suggestions are made by way of solution:—1st. In the original plan a building stood on this portion [marked in the drawing], probably the abode of a monk, from which the altar could be seen through the sloping window at C. 2nd. That the end at one time showed three sides of a hexagon in plan.

The east end, continues Mr. Deane, having been faced with modern work it became a question whether the blank arcade, now restored, continued the whole way across. At first he did not think it did, but on careful examination he found sufficient evidence to enable him to make up his mind that this arcade certainly existed. It has, therefore,

been restored with the same sandstone used in the rest of the building. There was a square modern window in the chancel wall on south side, the head and side being formed of old tombstones of the date of Sixth Edward, and on opposite side was a perfect round-headed ope. This, says Mr. Deane, naturally gave the clue to the restoration of the ope on the south side; and further he has pleasure in stating that amongst the rubbish near the building several of the jamb-stones of the south ope were found and replaced in their original position. At the north, the blank arcade at the side of chancel has been restored, and examination has shown that figure subjects were painted on the ceiling and walls of the chancel, as well as diaper work in the panels of the arcades.

Dr. Petrie states in his work that the whole of the vaulted roof, as well as the sides of the chancel, appear to have been richly painted in fresco, in which the prevailing colours were red, yellow, brown, and white. These frescoes, he held, were contemporaneous with the building. Mr. Brash had no doubt of the existence of these paintings, although he did not examine for them, but he had seen such decorations in other ancient Irish churches. Mr. Brash also noticed in his work certain peculiarities of construction of work at Cashel. Speaking of the chapel, he writes:—"The chancel shows an inexplicable peculiarity: it is not in the centre of the east gable of nave,—on the contrary, it has been placed as close to the south wall as it could be. From a thorough examination of the building, I have failed to ascertain the reason of this strange proceeding; I can only conjecture that when this edifice was erecting a more ancient church or oratory was in existence, and that the chancel of the new church was pushed on one side to avoid the removal of what may have then been an object of great reverence, though subsequently taken down to make room for the cathedral. This, of course, is but a surmise, but such feelings dictated many of the strange anomalies we find in ancient buildings."

The floors at Cormac's Chapel have been excavated to the original level, but Mr. Deane says no traces of tiling or other pavement have been discovered. The two square windows at south side of nave are reckoned of comparatively moderate date, and the conviction of the superintendent is, that the church originally had no windows in the nave at this side. He felt disposed to block up those that exist, but, owing to the light at the west end having been almost obscured by the subsequent structure of the cathedral, the want of the south windows, he considered, would make the chapel nearly dark. He questions "whether changes made at a date when those windows were inserted, as well as other changes from time to time, do not mark certain epochs in the history of the building indicative of habits and customs, times of peace and war, which add a charm and tell a tale which a more perfect-structure would fail to do." The west end has undergone a complete transformation, owing to the building of the cathedral transept against it. Only one window is available now of the original three which gave light to the chapel. Mr. Deane removed some of the filling in of the other two, but he says he failed in discovering cut-stone jambs or other evidence which would guide him as to their original form. As no light would be gained by open-

B

* The Forty-Fourth Report from the Commissioners of Public Works in Ireland, &c. Dublin: Alexander Thom. 1876.

ing these windows, the light being obscured by the walls of the cathedral they are let remain blocked with masonry. Mr. Deane is right in stating that the western doorway was a modern innovation; Mr. Brash and others have held the same opinion, but even the western doorway, at whatever time it was broken through, was done in a manner, in Mr. Brash's opinion, not discordant to the general effect. The door has, however, been filled up by Mr. Deane, but he feels it necessary to add—"My previous remarks that architectural changes are worthy of respect may raise the question why I removed modern work which obstructed the north doorway, and which was of more ancient date than the opening of the south windows. My answer is, this work hid from view the inner jambs, moulds, capitals, &c., of the finest portal of the chapel. By its removal this grand doorway stands in its original condition." A spandril wall of rough masonry, which existed between the north tower and wall of cathedral, has been removed, and this removal enables the side of the tower with its arcade to be seen. The ashlar removed from time to time on the north side of the tower has been replaced, and the masonry blocking up the east doorway on the north tower has been removed. Blank arcades and arches on south side have been repaired, and stones inserted here and there in places where requisite. A curious arch has been discovered at the west end on the side facing the transept of the cathedral; this arch has its springing from each side of the chapel, spanning a recess of eight inches deep in the centre, running to nothing at the sides. The character of the arch stones would indicate a date, in Mr. Deane's opinion, of about the thirteenth century, but it must have been made earlier as it passes behind the walls of the transept which was built about that period. The staircase in south tower has been repaired, and the ope at base of tower filled. Externally general pointing has been attended to, but it has been kept back from the face of the wall, so that the ancient aspect of the masonry and building as a whole might be maintained. The stone roof has been re-set and pointed, and iron gates and bars will be placed in the ope "to prevent the clambering propensities of the public."

In connection with the crofts, or upper crofts—those curious apartments over the chapel, and common to other early Irish churches—necessary repairs have been done, but nothing we are told approaching "restoration." Dr. Petrie and Mr. Brash and some of their predecessors have described at length these upper crofts in Irish churches. Mr. Deane writes: "Those curious apartments deserve much attention. There is no doubt that the inner skin of the roof is tuffa, not laid as corbelling, but forming an arch round the larger of the two rooms, a flue runs communicating with an aperture which leads into the south tower. I have been unable to trace the commencement of this, but have little doubt that some means of heating the chamber was adopted on the principle of the Roman hypocaust, and that the south tower formed the upper shaft for the smoke."

Cormac's Tomb, in which was found the crozier now in the Royal Irish Academy, has given rise to considerable conjecture as to its original position, as well as to other matters in relation, has been placed by Mr. Deane at

the west end of the chapel, more with a view, he says, to its protection from the weather than from any settled idea as to where it originally stood. The recess that was supposed to contain it could not have done so as the tomb is several inches too long for it. The opinions of Petrie and Brash on this head are worth referring to, and perhaps we shall quote them before passing on to a notice of other works of conservation accomplished at the Rock of Cashel and at other places named, under Mr. Deane's supervision.

SANITARY WORKS ABROAD.*

THIS publication, or rather volume, comprises two most important reports: I. "Assainissement de la Seine," being the Report of the Commission appointed to propose measures for remedying the pollution of the Seine, in the vicinity of Paris; and, II., "Assainissement de Berlin," a description of the works in course of execution for the sewerage of Berlin, and the application of the sewage to irrigation at Marienfelder and Falkenberg. Mr. Manning has performed valuable service by his translation of these reports from the "Annales des Ponts et Chaussées," and there is no city or town that we know of in the three kingdoms whose local authorities stand more in need of the information contained in these reports than ours. Sanitary authorities, no matter where situated in this country, would do well to attentively peruse these reports, that they may realise the scope of their duties, and take lessons from foreign countries in the matter of sanitary precautions and regulations with the view to the purification of our rivers, and the establishment of public health. In the report on the Seine we have, firstly, an examination of the pollution of the river in the vicinity of Paris, and an investigation into the cause of it; and, secondly, an examination and selection of the measures to be taken to remedy the pollution. These are the two distinct parts into which the work of the Commission is divided.

In the first part there are several matters discussed and described—the phenomena which characterise the pollution of the Seine, the outward characteristic of the pollution, the chemical characteristics, predominant causes, waters from the intercepting sewers, their daily quantity, their composition. Secondary causes, small sewers and factory water. We hold that the question of the secondary causes of pollution, of not only the Seine, but of many rivers in the British Islands, is a very important matter, although reckoned a secondary cause.

We have it stated in this report on the Seine, "Above Corbeil, the factory waters of the Essonne; above Paris, ten establishments, such as starch manufactures, leather dressing, washing felt and wool-dyers, chemical manufactures, india-rubber, poudrette, foundries, and six mains discharging the waters of the towns of Choisy, Maisons, Charenton, Vitry, and Ivry. Through the city itself, fifteen sewers not yet connected with the intercepting sewer, besides the sewers from the islands in the Seine, and the floating laundries—these last discharging every year into the Seine, 176 tons of washing-soda and 132 tons of soap."

We quote the above extract to show the nature of the secondary causes of pollution of the Seine. There are no floating laundries in the Liffey or Thames, as far as we are aware, but we know, at the same time, the refuse suds and slops of laundries make their way to these rivers. Factory refuse, to an enormous extent, passes into the public sewers in London, and thence into the Thames; refuse of the most poisonous and disgusting kinds from noxious trades.

* Sanitary Works Abroad, &c. Extracted from the "Annales des Ponts et Chaussées," and translated from the French by Robert Manning, M. Inst. C.E., Chief Engineer to Her Majesty's Board of Public Works in Ireland. London: E. & F. N. Spon. 1876.

This refuse, which is sometimes half solid or semi-fluid, should be utilised before passing into our public sewers, which were never intended for an outlet for manufacturers' refuse. Some manufacturers engaged in offensive trades are obliged to consume their smoke, so should a certain number of manufacturers be compelled to utilise, by chemical processes, their waste substances, and fluid matter from manufactures should be rendered innocuous before being passed into our sewers, which of course have their outlet in our rivers. Many more than we have mentioned are the secondary causes of the pollution of the Seine, and the same may be said of the Liffey, Thames, Clyde, and other British and Irish rivers.

In the second part of the report on the Seine, the projects proposed for its purification, and the objections to them are considered by the Commission. These include—1. The prolongation of the intercepting sewers to the tidal part of the Seine, or to the sea. 2. The prolongation of the intercepting sewers to the confluence of the Oise. 3. The dilution of the sewage water in the interior of the sewers, or at their mouths, by clear water. 4. Filtration of the sewage through different substances. 5. The construction, at the mouth of the intercepting sewer, of large settling basins.

After discussing the various projects and processes of purification, the Commission arrives at the conclusion, that it is in the combined action of the soil and vegetation the true solution will be found—that is, "By irrigation, applied to a permeable soil, sewage becomes not only inoffensive, but productive and fertilizing. Sanitary conditions are satisfied, and, at the same time, there is gained for agriculture a source of manure hitherto absolutely allowed to run waste." The principles and theory of the system are next discussed, the operations carried on by the authorities of Paris on the plain of Gennevilliers, and the results obtained there. Among the measures to be adopted by the Paris authorities to stop the pollution of the Seine are, "To prohibit, in the first place, by the application of the Royal Ordinance of the 20th February, 1773, and the Order in Council of the 24th June, 1777, the emptying into the Seine, water, filth, or excrement of any kind, which would render its water unwholesome or unfit for domestic uses." In an "additional note" to the report under notice, by M. Mille, Inspector-General des Ponts et Chaussées, it is stated, that by the aid of the engines, and an extension of the sewage works in hand, it is expected next year to remove from the Seine half the sewage water which now pollutes it. A preliminary project for an irrigation canal, extending to the Forest of St. Germain, has been prepared in accordance with the opinion of the Commission, and it has been submitted to the municipal administration. They have proposed to the Council to hold an inquiry, and to obtain the "declaration of public utility," for the whole line, from Clichy to St. Germain. The agricultural and economic results of the irrigated land under the French system at Gennevilliers is very cheering and satisfactory. The cultivation of vegetables is predominant, but a certain number of fields are reserved for plants used in manufactures. Within the limits of the irrigated area, large farmers employ the water as manure, or for watering, in summer, rye, cut green, mangel wurtzel for cattle, vegetables; and some meadows bordering upon the Seine are irrigated.

The Commissioners mention that when they visited the lands in the month of October the lucern grasses were still growing, and had been cut four or five times. The mangel wurtzel was cultivated for sale, and produced nearly 100 tons per hectare (two acres or better). The value of the irrigated lands is increasing, since their reclamation, from a value of 90 to 120 francs per hectare to 200, 300, and even 400 francs. The lands belonging to the city are let at a rate of five francs per 100 square metres, or 500 francs per hectare. As the city extends the con-

duit and drains, the farmers are ready to utilize the sewage placed at their disposal or within their reach.

We consider the report upon the Seine a very valuable one, and we hope it will be studied by our corporate authorities over the kingdom. To all who are interested in the purification of the Liffey, and who are not, the report will be full of interest.

The companion report, "Assainissement de Berlin," is also one which should receive the attention of sanitary authorities. To use a sentence or two of the translator in his prefatory note:—"At Berlin the proper drainage, water supply, and ventilation of private houses are made compulsory, and neglect on the part of the owner is punished by fine and imprisonment. In this country such neglect executes its own 'arret,' and more frequently than is supposed, punishes with death." Of a verity, it does, Mr. Manning. "M. Mille," continues the translator, "says the water-closet is especially the *point d'appui* of domestic salubrity. Badly-constructed, badly-trapped, unventilated, it becomes a domestic upas." It becomes a question also if the position of the water-closet in our houses does not call for a little more attention, and if a new line of departure as to its planning and arrangement is not absolutely necessary. To make the water-closet a requirement or an adjunct of the human dwelling, is one thing; but to make it "part and parcel" of the house, is quite a different thing. Habits of luxury too often, alas, are not sanitary habits, and the water-closet should in its position be more cut off or removed from living rooms than it is at present. In the report or notice by M. Mille on the sanitary state of Berlin, regulations and works, there is a large amount of valuable information. The water supply of Vienna is described, rules for the sanitary improvement of dwellings in Berlin, sanitary principles, sewerage of the public streets, pumping engines, and a comparison with London and Paris. M. Mille, in his concluding paragraph in relation to Berlin, writes:—"If in conclusion, we are permitted to offer an opinion, we repeat our conviction that the interchange and adoption of practical details is progress. We should go north to study the internal improvement of the private house, and to Paris to see that of the public way. In adopting that which is good in each, as far as the circumstances of each will permit, we shall develop the science of health, and health itself, and prolong the mean duration of life of the inhabitants of large towns."

Three documents are annexed at the end of the paper on Berlin:—A Public Ordinance, an Order of the Mayor, and a Public Order—all having relation to sanitary rules and regulations, which have to be complied with by owners and others, in the important matters of sewerage and house drains, &c. We would like to see similar orders and ordinances enforced in Dublin, in connection with a proper Building Act. Two good plans of maps accompany the reports under notice, illustrative respectively of the sanitary area and works at Paris and Berlin. We may return shortly to a consideration of some matters discussed in "Sanitary Works Abroad."

"ARTISANS' DWELLINGS."

THE *Sanitary Record* of the 12th ult. has the following article on Mr. Thomas Drew's paper which appeared in our number for 1st ult. :—

Some very excellent remarks have lately appeared from the pen of the architect, Mr. Thomas Drew, as to the mistakes hitherto made in artisans' dwellings, more especially those which have been erected on the huge block system. His criticisms deal mostly with the sanitary appliances for the removal of the soil, and he is inclined to believe that sooner or later it will be found wise to resort to the privy system, in cases where many are lodged together. The details of the system proposed by him are given in the *IRISH BUILDER* of August 1, and are worthy the attention of any company about to be formed for the erection of artisans' dwellings on a large scale. The author is satisfied that, for

Dublin at least; the over-beautiful and over-scientific contrivances, to be found for instance in the Peabody Buildings in London, would prove a nuisance in more ways than one. We are of opinion that there is a great deal too much mechanical complexity about some of our sanitary goods, and that a simplification might very well be arrived at. It would also greatly lighten the toil of the overseers of the buildings, and save much quarrelling with the inmates. Mr. Drew objects most positively to the present system of dust refuse removal. He would have the mouth of the dust shoot open to the air, neither should it deliver into a close chamber, but rather upon a platform or box, also open to the air. Without question here has been hit a great blot in the construction of these communal houses.

VOLUNTARY SANITARY EFFORTS.

THE printed report of the Executive Committee of the Dublin Sanitary Association, recently issued, tells some things that ought to be more generally known by our citizens. The fourth annual meeting was held in June, and in the opening of their report the Committee regret they continue to receive so little encouragement in their efforts at the hands of the Public Health Committee of the Corporation of Dublin. We must honestly say that the Public Health Committee of the Corporation have not acted fairly, and, instead of being jealous of the labours of the Sanitary Association, they should have seconded their efforts instead of throwing obstructions, which they have done in some instances, in their path. If the Corporation were doing their duty to the citizens, there would not have been such need for the establishment of the Dublin Sanitary Association four years ago. In saying this, we do not mean to infer that there will not always be room in cities and towns for voluntary assistance. Indeed, we are of opinion there will always be an open for voluntary service.

Considering the limited funds at the disposal of the Association, it has performed a large amount of useful labour in the way of inspection with a view to removal of nuisances. The Association now numbers 282 members, being an increase upon the roll of 14 over 1875. The total number of complaints forwarded by the Association to the sanitary authorities during the year was 266, comprising 416 nuisances. The Association claims and deserves credit for its endeavours to get the "Artizans' and Labourers' Dwellings Act" extended to Ireland. When this Act was brought into the House of Commons it was only intended for England; and, we believe, we were the first journal in this country who publicly called for its application to Ireland. The Sanitary Association also organised a series of lectures on sanitary subjects, which were delivered early in the year in Rathmines Town Hall, which have no doubt aided the cause of sanitary reform.

The committee have to regret the death of one of their most energetic members in the person of Dr. Toler Maunsell; and Dr. Churchill's retirement to the country is also a great loss to the committee. Some changes have taken place during the year in the list of officers. Dr. Charles F. Moore has resigned in consequence of having become a district sanitary officer under the Public Health Act of 1874; and Mr. Edward F. Beatty is appointed honorary secretary in Mr. Moore's place; Dr. Todhunter, another of the hon. secretaries, having gone to reside in London, Dr. J. Moore has been appointed in his stead. The report of the sub-committee, consisting of Fred. W. Pim, Dr. Grimshaw, Dr. J. W. Moore, and Dr. Stewart Woodhouse, on the injurious manure yards maintained in the city by the Corporation, is a valuable one. The correspondence between the Association and Corporation on the head of slaughter-houses, hospital conveyances, and the reports thereon, are evidence of valuable efforts on the part of the Association. The matter, on the whole, contained in the different appendices to the annual report of the Association, will be found most useful. An excellent digest is given at the end of the Artizans' Dwellings Act, showing its principal

bearings and applicability to Dublin. We hope to see the funds of the Association increasing, and more harmony existing between it and the Corporation than has hitherto existed. Much can be achieved for the public health through joint labours, but lasting injury alone, by perverse opposition.

ROYAL ARCHÆOLOGICAL INSTITUTE AT COLCHESTER.

To sum up. On Saturday, the 5th, there was an excursion to the Church and Priory of St. Osyth, Wyvenhoe and Brightlingsea Churches being visited on the way. Dr. Freeman explained the peculiarities of the latter church—a building with a lofty battlemented tower. In the hurried inspection of the church at St. Osyth, Mr. Freeman and Mr. Parker made a few remarks on some striking features in connection with its history and architecture. The visitors were hospitably entertained by Sir John and Lady Johnson at the Priory, and afterwards left for Colchester, where the Mayor and Mayoress held a conversazione in the Town Hall.

On Monday, the 7th, the Historical Section held its third meeting, Dr. E. A. Freeman in the chair, when Mr. Clement Markham read a paper on "The Siege of Colchester." The discussion thereon was followed by an interesting paper by the Rev. C. R. Manning on the "Monuments of the De Burgh and Ingoldsthorpe Families in Burgh Green Church, Cambridgeshire." Mr. S. Tucker (Rouge Croix) next read a paper on "Variations in the Petre Arms," and Mr. Waldene succeeded him with some remarks on "Havelok the Dane." Mr. H. Stopes directed the attention of the members of the Institute to the fact of the existence, in the low-lying marshes fringing the Colne and Blackwater, of a series of remarkable mounds, which had apparently hitherto escaped the notice of archaeologists.

In the afternoon a perambulation of the eastern portion of the town was made. Mr. Parker gave a description of the Castle, St. Botolph's Priory, the Abbey Gate, and other remains, mentioning some interesting incidents in connection with their history.

In the evening the third and final conversazione of the members of the Institute and of the Essex Archæological Society was held; and a paper was read by the Rev. S. Baring-Gould, on "Ancient Historic Fables."

On Tuesday, the 8th, and last day of the meeting, in the morning a paper by Mr. B. H. Cowper, on "Earthworks in Epping Forest" was read (in the absence of the author) by Mr. J. Burt, the hon. secretary of the Institute. Mr. Burt, in the absence of Mr. T. Watkin, next read a paper on "Roman Inscriptions found in Colchester." A long discussion followed, in which Lord Talbot de Malahide, Mr. J. H. Parker, the Rev. Prebendary Scarth, and others, took part. At the end of the discussion on the etymology of "Colchester," the Rev. Barton Lodge read a paper upon St. Mary Magdalene and other leper hospitals. The company next adjourned to the large hall, where votes of thanks were passed to the Mayor and Corporation of Colchester for the reception accorded to the Institute, and to those who had shown their hospitality during the excursions; also to the presidents of sections, the local committee and secretaries; and to Lord Carlingford for presiding, and others.

This closed the formal business of the Congress. Next year's meeting of the Institute will take place at either Hereford or Northampton, but at which place it is not yet definitely settled.

THE LARGEST CIRCULAR SAW.—Messrs. Henry Disston & Sons exhibit at the Centennial the largest solid circular saw ever made, 100 inches in diameter, with 50 teeth; a rim circular saw 60 inches in diameter; a 60-inch circular saw, with inserted teeth of the chisel pattern; specimens of homogeneous steel for flanging, and some handsome flanges made therefrom; steel ingots, hammered and unhammered, from 8 to 300 lbs. weight.

THE CITY OF NEW YORK.*

In the year 1609 Hendrick Hudson, an English navigator in the service of Holland, searching, like so many others, for the famous north-west passage which should lead directly from America to the Indies, discovered in the 40th degree of latitude the great river which bears his name. Five years afterwards the Dutch laid the foundations of a colony on the banks of the river about 230 kilometres from the mouth, which was at the same time a military station and a trading post, and to which they gave the name of Fort Orange. Having purchased the Island of Manhattan, at the mouth of the Hudson, from the Indians, they also established on it a commercial port which they called New Amsterdam. The English, who already possessed several neighbouring colonies, viewed these establishments with an evil eye. No precise limits separated the rival races, and a struggle could not long be delayed. In 1664, the English, under a flimsy pretext, seized upon the territory, by this time called New Holland, lost it some time afterwards and finally recovered it in 1674. New Amsterdam exchanged its name for that of New York, and Fort Orange took that of Albany.

The sixty years of Dutch domination form what may be called the heroic age of New York. Washington Irving has rendered this epoch memorable in his well-known work.† The name of *Knickerbocker*, which is given to the supposed author, serves to distinguish familiarly in the United States, the descendants of the ancient Dutch colony. This name which is not mentioned in any dictionary, and of which little is known of the etymology, appears to have been originally that which was given to the short trousers or knee-breeches worn by the first emigrants. Their sons retained the name with a sort of pride, and some of them remained faithful with an affecting tenacity to the austere manners and customs of the former time. Hence it is that the American caricaturist delights to represent the mythical personage Knickerbocker, with trousers fastened at the knees, buckled shoes, peruke, queue and three-cornered hat, as a type of the primitive colonist.

During the Dutch period the Island of Manhattan reckoned barely some hundreds of hardy traders who carried on with the Mohawks and Mohicans, Indians of the Iroquois and Algonquin nations, the trade in beaver skins and other furs. The merchants established at Fort Orange and New Amsterdam exchanged these products for arms, munitions of war, and brandy, and shipped them to Holland. In return the mother country expended on this forlorn point of the New World, provisions, liquors, and men. Tobacco, vegetables, and wheat soon began to be cultivated, cattle to be raised, and corn ground in the windmills, which rose upon the natural eminences of New Amsterdam. Governors, sent from Europe or named by the residents, ruled the little colony. A

fort, of which the traces are yet visible, commanded the mouth of the Hudson, and each evening when the retreat sounded, the inhabitants returned homewards and slept securely behind the walls and ditches which they had placed to guard against a surprise by the Indians. During the day, at the public place called "The Parade" (which has since become "The Battery") they walked and chatted in view of the magnificent bay where the Hudson mingles its waters with those of the ocean. In the petty affairs of these colonists time did not count for much, and the veracious historian of these primitive ages tells us that in default of a timepiece they marked the hours by the number of pipes they smoked.

These patriarchal fashions changed under English rule. The number of inhabitants passed very soon from some hundreds to several thousands, business flowed in a rapid

current, a market for slaves was established, and a newspaper founded. The merchants of New York shipped flour and salt meat to the Antilles, which sent in return sugar and coffee. In the meantime other commercial ports—such as Boston to the north and Philadelphia, Baltimore, and Charleston to the south—contributed to the trade of New York. Newport, in Rhode Island, the flourishing seat of the whale fishery, was also amongst the tributaries. The War of Independence broke out in 1776, and while it lasted New York remained the centre of the British forces, and was not evacuated till 1783, at the signing of the peace. Ten years afterwards the population had doubled, New York containing then 85,000 inhabitants.

The sudden rise taken by the city at the end of the eighteenth century was not yet arrested. In 1807 it was upon the waters of the Hudson that the first steamboat sailed, that of Fulton, the "Clermont," in which he ascended, for his first essay, from New York to Albany, taking passengers. In 1825 the famous Erie Canal was constructed, and placed New York in direct communication by the Hudson with the immense lakes of the north—veritable inland seas—and the fertile plains of the west, which had begun to be colonised. Soon railways were introduced. In 1831 the great Erie Railroad, which passes through the same places as the canal, was projected; and it was owing to these two great highways, as well as to its exceptional position on the ocean, the beauty, safety, and amplitude of its harbour, and of the wide and deep river which pours into it, that New York became soon without contest the first city of the two Americas. In 1842 a supply of excellent water was assured to it against all the chances of the future by the construction of the Croton Aqueduct, which the capitals of Europe may well envy. Neither fires nor epidemics, nor armed street riots, which came by turns to cause alarm, could stay its continued progress. Its public and private edifices have multiplied. During one century the population of this astonishing city has doubled every twenty years, and amounts to-day to one million of souls.

There are but two ports in the world where more business is transacted than at New York—London and Liverpool. In the twinkling of an eye New York has left far behind all the sister cities in America which at one time seemed its formidable rivals. New Orleans, seated at the mouths of the Mississippi, and San Francisco, queen of the Pacific, cannot now even dream of contesting with it the pre-eminence; still less can Rio Janeiro and Buenos Ayres in South America, which command territories more gifted by nature, but where the inhabitants are not so energetic and enterprising. New York has herself assumed with legitimate pride the title of "The Empire City," and we shall see that she is justified in doing so in more than one respect.

I. OLD NEW YORK—THE BUSINESS QUARTER—THE NEWSPAPERS.

There exists a curious plan of New York, drawn fifty-four years after the English occupation in 1728. A remarkable facsimile of it has been recently obtained by the heliographic process, and can be seen hanging in the windows of the principal booksellers of the great commercial city. On one side are engraved the arms of "His Excellency John Montgomery, Captain-General and Governor-in-Chief of the Provinces of His Majesty, New York, New Jersey, &c." He was descended from one of the companions of William of Normandy, as is indicated by the French motto, "*Garde bien*" displayed on a ribbon at the base of his escutcheon. On the other side of the plan are the "armes parlantes" of New York. The field is divided by the four arms of a windmill placed diagonally into four equal compartments, of which two barrels of flour occupy those at the right and left, and two beavers passant those at the top and bottom. The shield is supported at one side by a Dutch sailor holding the sounding line, in memory of the discovery by

Hudson, and on the other by an aboriginal Mohican armed with his bow. These arms of New York have been religiously preserved, and appear still upon the seal of the municipality.

On this old plan the city occupies already all the point of the Island of Manhattan. We see there a labyrinth of streets, crossing each other in an irregular manner, and bearing, for the most part, the same designations as at present, the royalist names only having been changed at the close of the American Revolution. A fort at river side commands the extremity of the island, but the walls and ditches of the Dutch have disappeared. One street only—"Wall-street"—recalls them, and marks one of their directions. On a little hill, at the extremity opposite to the point of the island, appears a windmill, beyond it the "King's Farm," then ill-defined fields, stagnant waters, and a prairie, neatly indicated by the drawing, and bordering "the high road to Boston." Upon the banks of the two rivers which wash the Island of Manhattan, the Hudson, or North River, and the East River are traced quays, warehouses, docks, yards, wharves, and slips, with the names of the respective merchants to whom they belonged. The city, which contained then 8,000 inhabitants, is divided into six wards or quarters. But ten churches are to be counted, which include two Dutch, the Jewish Synagogue, and a "French church," the rest belonging to different reformed sects—Baptists, Quakers, Presbyterians, and Lutherans. Starting from the Parade, at the foot of the fort, where are the "King's Chapel," "Governor's House," and "Secretary's Office," appears a great artery, "Broadway," which comes to an end in a long avenue of trees in the fields which mark the north-east boundary of the city. All this is carefully delineated on the plan, of which the engraving, executed in the elegant, correct, and light style of the time, pictures to us in a graphic manner the City of New York as it appeared about one hundred and fifty years ago.

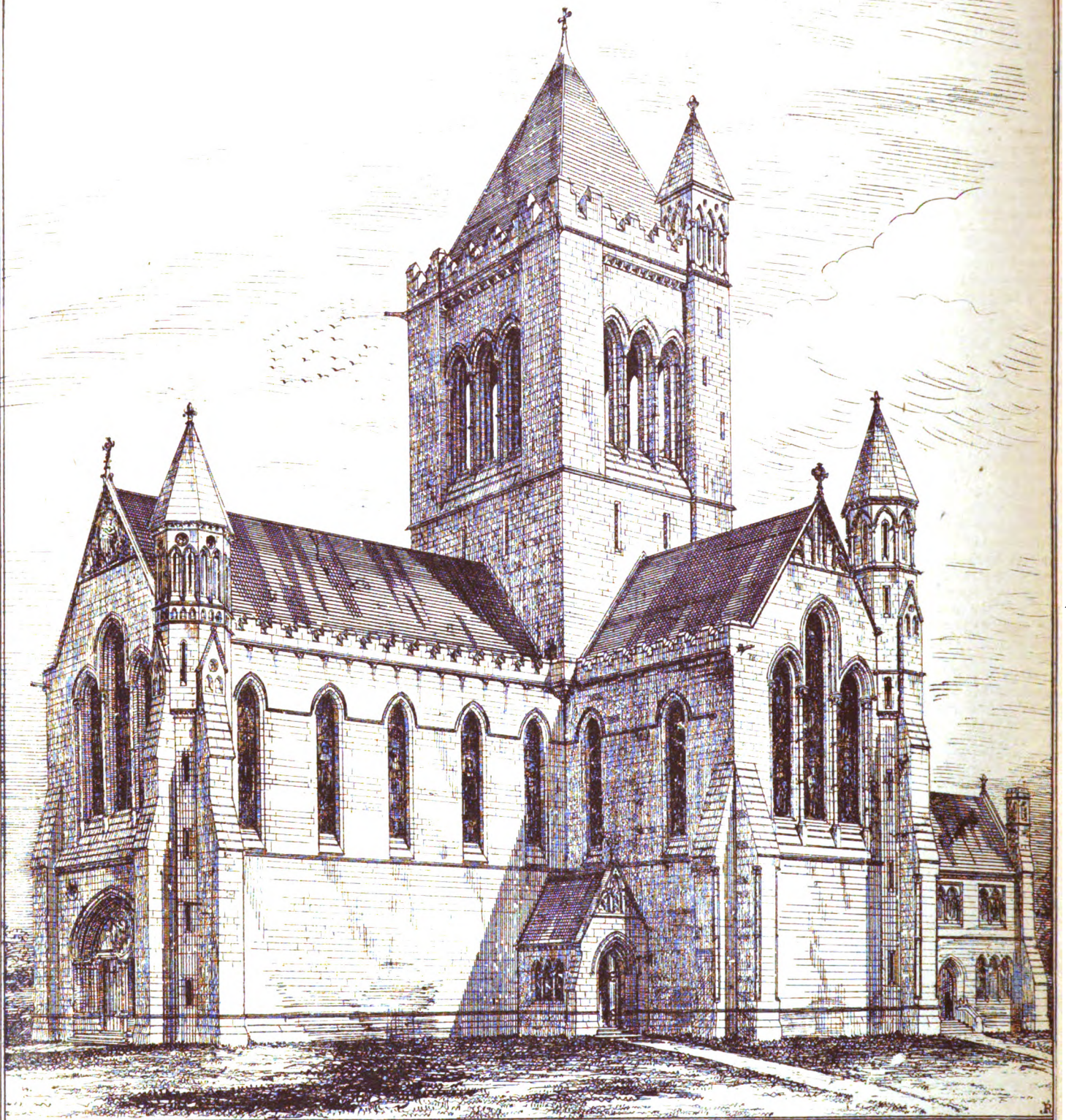
The fort, which formed the residence of the governor, and where were installed the officers of the province, is now called "Castle Garden," and has been entirely transformed and devoted to pacific uses. It is here that, since 1855, disembark every day in such great numbers, often more than a thousand at a time, the poor emigrants who come from all parts of the globe to seek in the United States the liberty, independence, and well-being denied to them by their native soil. The Castle commands a view over the Hudson. It is surrounded by a garden, planted with shrubs and flowers, beside a superb quay, formed of blocks of granite. Over the calm waters of the immense roadstead, land-locked as a lake, hundreds of vessels come and go, in the midst of which, distinguished by their plumes of smoke and the constant and discordant sounds of their whistles, the steam ferry-boats pass, which connect the two banks of the Hudson and East River. The visitor could not be offered a more magical spectacle, nor the stranger a better welcome.

Let us ascend the great street which opens before us. The crowd of carriages, omnibuses, and carts, which crush together on all sides, renders the roadway impassable to pedestrians. It is difficult even to make way along the sidewalks, and no street in the world, not even those of London, with its busy and noisy "City," can compare with Broadway, New York, for movement and animation. There is little room for ladies in the dense crowd. It lasts during eight consecutive hours, without one minute of respite, from nine o'clock in the morning till five o'clock in the evening, over more than four kilometres, from the Battery to Union-square—that is to say, for a length nearly equal to that of the Boulevards of Paris, from the Madeleine to the Bastille. At Union-square, Broadway is but at its middle, but the business quarter ends, and the city commences to be more calm. Several of the side streets are equally encumbered. The

* From the French of M. L. Simonin, in the *Revue des Deux Mondes*. Translated, with Notes, for the IRISH BUILDER by William Fogarty, F.R.I.B.A.

† "A History of New York, from the beginning of the world to the end of the Dutch dynasty." By Diedrich Knickerbocker.

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DESIGN FOR A CHURCH

John L. Robinson Archt.

noise ceases only on Sundays, when all is at a stand-still, at rest, and silent in the great city, in conformity with biblical observance.

Let us look around. Everywhere we see shops gaudily and vulgarly dressed and decked out, with the prices of the goods written up in figures a foot long. Gigantic signs attract the passer-by on all sides, some being painted on transparent cloths suspended by cords across the full width of the street, at the level of the upper storeys from one window to that opposite. In this quarter, which was, till recently, the favourite residence of the fashionable world, all the upper apartments are occupied by offices. It is difficult even for the family of the caretaker or "janitor" (who must not be confounded with the Parisian "concierge") to find a narrow place of abode in the roof. The ground-floor and basement are devoted to warehouses or dépôts of goods. Elevators are used to lift the heavy packages. Mechanical means are used as much as possible in this country, where manual labour is so dear, and where the citizen considers it beneath him to perform the functions of a street porter.

We are now in Wall-street, the quarter of finance. This street, which extends from Broadway to the East River, is, with two or three other shorter ones parallel or transverse to it, the centre of banking affairs. It resembles Lombard-street in London, but is even more restless. At this small point of the immense city, perceptible with difficulty on a large scale plan, are signed and cashed daily thousands of drafts of which the whole world knows the signatures, and are liquidated in the chamber of compensation or "clearing house," the transactions of the place to the extent of one hundred and seventy milliards of francs every year. Sixty banking houses change their paper here daily, and by the balancings, which the relations of business naturally bring about, have come in some sort to pay without money. It was possible, in 1871, by disbursing only five milliards, to pay one hundred and seventy, being one to thirty-four. This ingenious system has been borrowed from England, and only dates in New York from 1858; it has been found difficult of introduction in Paris, although that city is one of the chief monetary centres of the world.

Near the establishment of the clearing house is what is called the "gold-room," and the Stock Exchange (corresponding to the Bourse of Paris), where are discussed and settled every day from 10 o'clock in the morning till 2 in the afternoon the price of gold (for since the war of secession paper money is the only legal tender), and the course of various exchanges, public debts, shares or stocks of companies, railways, canals and mines. Those who have been within the exchanges of London or Paris during the hours of business can form but a feeble idea of the uproar which reigns, especially about mid-day in the Stock Exchange at New York. If we did not know who they were, we would take all the men present for fools, and it becomes a matter of surprise how they can understand each other.

The Stock Exchange occupies a handsome edifice at the corner of Wall-street. Renouncing the simplicity of other times, which England has not yet banished, the New York banker provides himself with splendid offices. The old house which yesterday sheltered him and his clerks, is pulled down to give place to an edifice of sumptuous aspect, where the marble of Carrara is married to the granite and porphyry of America. To these improvised millionaires palaces are necessary even for their banking operations. The financier Fisk, an audacious adventurer who fell some years ago by the bullet of a rival in love and business, was one of the most remarkable instances of these transformations. Jay Cooke presents another example, who made, in the month of September, 1873, that disastrous failure which involved so many others, and produced such a panic as the world never saw paralleled, causing the Bourse of New York to be closed for ten

days, till the crisis should pass—a crisis which, however, still lasts! Other great financiers have in their turn followed the fashion, and erected magnificent temples of finance. In London and Liverpool—those European rivals of New York—you are still seated before a deal table, upon a cane chair, in a dingy office; here you are offered an elegant arm or even rocking chair, in a hall splendidly decorated, brilliantly lighted, and in which the tables are of carved wood.

There is every convenience for the transaction of business. While the stock-brokers mark vigilantly in their books at the exchange or gold-room the varying prices of the different stocks, the banker has no trouble in ascertaining their fluctuations. A telegraphic apparatus installed in the angle of his office, and of which the jerking noise is heard on approach like that of a mill, prints in a continued line on a band of paper which it rolls out, the prices of all the stocks, at the precise moment they are called. Telegraphic news arrives from Europe or from the interior, the prices current of the principal articles of merchandise are not forgotten, and each merchant or banker can read at his ease on the apparatus which is to be found in all offices the quotation that most interests him. There are other applications of the electric telegraph: there are, for instance, in some warehouses wires which serve to call the police immediately, and in case a dishonest customer is discovered, the detective officer is summoned, and arrests him in the very act.

(To be continued.)

NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.*

CONQUERING success in her own native city, where poverty was her earliest inheritance and fame her well-deserved and latest reward, Miss Woffington is earnestly solicited by Rich to pass over to the London theatres. Her first appearance in Dublin in the character of Sir Harry Wildair, in Farquhar's comedy, "by desire of several persons of quality," was such a success that it removed all doubt as to her ability and qualifications for a great actress. The advantageous proposals of the London manager were embraced, and she appeared the following winter at the Theatre Royal, Covent-garden, in her favourite character. The personation of Sir Harry Wildair by a lady excited some surprise: the attempt was no doubt novel to a degree, and critics and dramatic connoisseurs were anxious to witness Miss Woffington's debut. The lowly-born but gifted Irish girl standing in the theatrical heart of London surprised all. A crowded house thundered its applause—and applause greater than had been known before. Previous to Miss Woffington's personation of the character Wilks was accepted as the standard, but those who followed him fell far short. Had poor Farquhar been alive to witness his countrywoman's portraiture of the character of the young man of fashion, he would doubtless have been proud of the thorough realisation of his ideas. Sir Harry Wildair was repeated upwards of twenty times the first season in London, and in after seasons it always drew crowded houses.

Leaving Miss Woffington in London for the present, we find Duval's company opening at Smock-alley in November, 1740, with the comedy of *The Funeral*, on their return from Drogheda. The opening, we are told—to use the language of the play-bills,—was "by permission of the Right Hon. Luke Gardiner." A Mrs. Furnival, an actress of merit in her day, played Lady Brampton. Of this lady Hitchcock writes:—"Mrs. Furnival, I have been informed by the best judges, was possessed of as great abilities as any actress that ever appeared;—unhappily she did not cultivate those abilities to the best advantage. She was at this time esteemed one of the best actresses on the stage, and sustained for many years a great variety of characters,

both in tragedy and comedy, with reputation."

Some of the Dublin play-bills of this period are curiosities in their way. One commences—"For the Benefit of Mrs. Bullock's Daughter. By the Right Hon. the Lord Mayor's Company of Comedians. *By Particular Desire.* At the Theatre in Smock-alley." The performance included a comedy entitled "Love for Love," the part of Miss Price being performed by "Mrs. Bullock's daughter," in which a prologue was spoken by her. The following entertainments severally followed between the five acts:—The song of "Mad Tom," by a Mr. Hind; a sailor's dance, by a Mons. Damont; a new dialogue, by Mr. Este and Mrs. Reynolds; a Scotch dance, by Mr. Morris and Mrs. Martin; and "A new pantomime dance called Pigmalion and the Ivory Statue"—the statue of the ivory maid by Mrs. Bullock's daughter. The performances were announced "to begin exactly half an hour after six o'clock. *Vivat Rex.*" Miss Bullock was subsequently known as Mrs. Dyer. Her mother, Mrs. Bullock, is believed to have died in Dublin in 1740. Of Mrs. Dyer we have nothing particular to record, save that she acted for several years on the stage in different characters, and was known as a useful actress.

In a play-bill of Smock-alley for Thursday, 4th of June, 1741, headed—"At the desire of several persons of quality," we have a curious medley of entertainments between the acts. The opening piece was the comedy of "The Squire of Alsatia," and it was a benefit night for Mr. Fox, the pit door-keeper. The part of Sir William Belfond was performed by Mr. Morgan; Sir Edward Belfond, Mr. Phillips; Belfond senior, Mr. Eltrington; Trueman, Mr. Este; Cheatly, Mr. Beamsley; Shamwell, Mr. Meek; Captain Hackam, Mr. J. Spark; Lolpoop, Mr. C. Morgan; Anthony, Mr. Husband; the Squire, Mr. Wetherilt; Isabella, Mrs. Barry; Teresa, Mrs. Morgan; Lucia, Mrs. Carmichael; Mrs. Termagant, Mrs. Wetherilt.

Some of the above actors and actresses possessed respectable talents, but the majority of them are not much known to fame. Of the other performances that followed on this benefit night at Smock-alley, a farce was acted called "Flora's Opera," the part of Hob being personated by Mr. C. Morgan. Then followed several entertainments and dancing between the acts. There was a new dance, called the "Country Revels," by Mr. Phillips and others; the "Wooden Shoe Dance," by Mr. Morris; the "English Maggot," by Mr. Phillips; "Pierrot in the Basket," by Mr. Morris; the "Running Footman," by Mr. Deleman; and others. The above programme will afford a tolerably clear idea of the state of theatricals at Smock-alley in 1741.

At this date it must be allowed a general decline was visible from what had been witnessed in Dublin some years previous, but better times were approaching. The managers of the Aungier-street theatre put their shoulders to the wheel, and by exertions wisely directed they were successful in winning public support. Mr. Quin, then in the height of his fame, Mrs. Clive, Mr. Ryan, and Mademoiselle Chateneuf were with others engaged. The last named had the reputation at the time of being the best dancer in Europe. The latter season, commencing in June, 1741, had a brilliant opening. Quin acted his favourite part of Cato to an overcrowded house, and Mrs. Clive, the famous "Kitty," next appeared in Lappet in the "Miser," and was acknowledged as one of the best that ever played it; and Ryan acted Iago to Quin's Othello. Performers such as these secured a good run for the Dublin theatre. Hitchcock, writing of this time, says, that perhaps it could hardly be credited that so finished an actress as Mrs. Clive could so far mistake her abilities as to play Lady Townly to Mr. Quin's Lord Townly and Mr. Ryan's Manly, Cordelia to Mr. Quin's Lear and Ryan's Edgar, &c. However, he considers she made ample amends by her performance of "Nell," the "Virgin

* See ante.

Unmasked," the "Country Wife," and "Euphrosyne in Comus," which were got up specially and acted there for the first time in Ireland. The "Masque of Comus" has been differently estimated by actors and dramatic critics. In Hitchcock's opinion it is one of the most beautiful pieces of poetry in the English language, and that it required to be uncommonly supported to render it pleasing to an English audience. It appears nothing was wanting to make it successful on the Dublin stage, and that all were satisfied that witnessed the performance. Quin acted Comus, the Elder Brother was played by Ryan, Mrs. Clive Euphrosyne, the other characters being well disposed. The music was prepared by the noted Mr. Duburg, the band was led by Pasquillo, and the dances were executed by Mons. Laluze and Made-moiselle Chateneuf, and some others. The Aungier-street management made a complete hit in the entertainment, which was the best that had been produced in Dublin for several years; and during the short stay of the above actors it was repeated three times. At the close of the season at Aungier-street, Mr. Ryan and Mrs. Clive went back to London, but it appears that Quin proceeded with the company to Cork and Limerick; for we find him turning up next season again at Aungier-street. Duval, with his Smock-alley Company, proceeded as usual to Belfast and Newry. Although Mrs. Clive did not retire from the London stage until 1769, after forty years' public service, still it may not be much out of place to give some account of her life and career at this point.

Catherine Clive was the daughter of William Rafter, a gentleman who was a native of Kilkenny. He was bred to the law, but, through his attachment to the cause of James II., in whose military service he entered, he lost his paternal estate, which was confiscated. After the defeat at the Boyne, Rafter followed the fortunes of the unlucky monarch; and, through the king's interest and his own merit, he obtained a captain's commission in the service of Louis XIV. Subsequently, Rafter procured a pardon from the English government and settled in London, where he married the daughter of a noted citizen in Fishstreet-hill, by whom he had several children, among whom was afterwards the celebrated Kitty.

Miss Rafter was born in 1711, and in her earliest year gave evidence of her theatrical taste. She had a turn for humour like the race from whom she descended, and it is stated that her pleasing manner of singing songs led to her friends introducing her to the notice of Colley Cibber, one of the managers of Drury-lane Theatre at that time. Young Kate Rafter was immediately engaged at a small salary, and her first appearance was in boy's clothes in the character of a page in the tragedy of "Mithridates, King of Pontus." In this first appearance she was only introduced to sing a song, still she was well received.

In the same season, 1728, when she was about seventeen years of age, she performed the part of Phillida, in Cibber's "Love in a Riddle," the audience receiving her well, though the author and the play were hissed through party prejudice.

In 1731, Miss Rafter came boldly to the front "in a full blaze of comic lightning," in the part of Nell in the "Devil to Pay, or the Wives Metamorphosed," a ballad farce, written by Coffey, an Irish dramatic author and actor, of whom we will speak hereafter. In this part, Miss Rafter exerted her comic powers, and proved to her audience that she was possessed of a fund of humour. Her capital acting of this character led to the doubling of her salary, and the fixing of the farce on the constant list of acting plays.

In 1732 our actress was married to Mr. G. Clive, the brother of Mr. Baron Clive; but the couple did not live long together, and, as usual in theatrical circles, scandal was rife as to the cause of separation. At the time of her retirement from the stage in 1769 Catherine Clive's abilities were scarcely the least impaired through time, though

numerous were the characters played by her. She sometimes undertook tragedy, but it was not her line; but in comedy she excelled. Walpole wrote an epilogue, which was spoken by her on her last appearance. She retired to Strawberry Hill, near Twickenham, where she continued to live for years, enjoying health and independence. As an authoress, Mrs. Clive's abilities do not rank high. She introduced on the stage at different benefits of her own the following small pieces:—"Bayes in Petticoats;" "Every Woman in her Humour;" "The Faithful Irish Woman;" and the "Island of Slaves." The last is little more than a literal translation of Moraviaux's "Isle des Esclaves" executed by a gentleman at her request. Though the daughter of an Irish father, the theatrical career of Catherine Clive belongs rather to the English than the Irish stage, so we may stand excused from entering into full details as to her life and associations.

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

SINCE newspapers and periodicals first chronicled "Births, Marriages, and Deaths," a certain class of readers have always taken the greatest interest in these announcements. The feminine mind is, perhaps, more prone to look out for these items than the masculine. The visitor or country cousin in the city, on opening a provincial newspaper forwarded to him is certain to look first for the column containing births, marriages, and deaths. The column acts as a certain index, showing the changes that are taking place in his native county or town—the ebb and flow of life. Current announcements of the kind we have indicated possess a certain charm or grave interest, as the case may be, according to the circumstances or hopes of the individual concerned. Who can measure the number of joys or sorrows comprised in these announcements? The obituary column does not stand alone a pillar of sorrow, for in the announcement of many a death there is bright hope for the living relative and stranger. "Tis an ill wind that blows nobody good," said the proverb, and 'tis quite true; and, though there are but few deaths that do not bring much sorrow, there are few also that do not bring a joy or a help to some living person. Out of our very sorrow humour is extracted, and our most tender feelings are liable to be worked upon in the interest of literature and the stage. There is nothing for us but to "grin and bear it." Nothing is sacred to the Yankee journalist. To use the language of Wordsworth, he would peep and botanize upon his mother's grave. Was it not him who first transformed births, marriages, and deaths into "hatched, matched, and dispatched?" and, later again, has he not improved upon it in the following fashion: "Premature Arrivals," "Melancholy Accidents," and "Joyous Departures?"

Let us pass however from current history back to a time when but few of us alive were living. Let us glance at the column of Dublin newspapers and magazines between eighty and one hundred years since, and see if in the announcements of "Births, Marriages, and Deaths" of those days we will find ought to interest us. Of a verity we can, and the items are suggestive of much that goes to the formation of our literary, national, and political history.

Beginning with January 4th, 1793, we have an announcement under the head of births—"At Carton, the Duchess of Leinster of a son," and on the 23rd, "In Molesworth-street, the lady of George Stuart, Esq., Surgeon-General of the Kingdom, of a son." Under marriages, on the 8th January, we have, "Lord Edward Fitzgerald to Made-moiselle Pamela, daughter to the ci-devant Duke of Orleans." On the 10th, "On Temple-bar, Monsieur Jocasto, Dancing Master, to the widow Lamb." On the 16th, "By special license by the Lord Bishop of Killala, John Thomas Barnewell, Esq., only

son to Count B., late of the Kingdom of France, and cousin to Lord Trimlestone, to Miss Maria Teresa Kirwan, eldest daughter of Richard K., Esq., F.R.S., M.R.I.A., of Rutland-square." On the 24th, "In Chatham-street, the Rev. Abraham Stewart, cousin-germain to the Right Hon. Lord Donoughmore, to Miss O'Connor, daughter to the Rev. — O'Connor." These are but a very few of the births and marriages of 1793, yet what literary and political memories and associations do they not recall. Lord Edward Fitzgerald and Richard Kirwan, the mineralogist, are two names in themselves which call up a host of recollections.

Under the head of "Deaths," let us cull a few names: "At Toulouse [4th December, 1792] the Right H. Margaret, Countess of Louth, in the 64th year of her age. She was daughter and co-heiress of Peter Daly, of Quansbury, county Galway, Esq., and sister to the Countess of Kerry. She possessed the finest of feelings, and died a victim to her maternal affection for her youngest daughter, the elegant and amiable Lady Matilda Birmingham, who died at Bagneres a few years since." We give these extracts as we find them *verbatim et literalim*. Here is the death of an old lady, who nearly reached her centenary. On the 3rd of January, "At Mullingar, in the county Westmeath, in the 98th year of her age, Mrs. Anne Jones, relict of George J. of Rathconrath, Esq." On the 5th, "At Rochestown, county Dublin, John Malpas, Esq., by whose death a considerable fortune devolves to his son-in-law, Richard Wogan Talbot, of Malahide, Esq." The above item suggests memories, but we have not room to dilate. Here is a rather long obituary notice. On the 5th, "At Millicent, county Kildare, Mrs. Griffith, relict of the late Richard Griffith, Esq. The lady was not more celebrated for the brilliancy and refinement of her genius in the republic of letters than she was admired and beloved in private life for the vivacity of her wit and the benignity of her heart. She is regretted by a numerous acquaintance, but she is deeply lamented by those near friends and relatives, who had more intimate knowledge of her worth, and who at once admired her talents and revered her virtues. Mrs. Griffith maintained a very high literary character for several years in England, and was justly styled, in the beautiful poem of the 'Female Advocates,' 'A second Sappho with a purer flame.' She was authoress of letters of 'Frances,' in the collection of original letters of 'Henry and Frances,' and some novels which have obtained considerable celebrity, among others the 'Delicate Distress,' the 'History of Lady Barton,' &c. Mrs. Griffith was also a very successful dramatic writer, having produced several comedies, which were performed with uncommon applause in the London theatres. One of them, the 'School of Rakes,' may be deemed an English classic, being unrivalled in elegance of diction and elevation of sentiment. Her last publication was, 'Advice Addressed to Young Married Women,' which ran through several editions, and thus she closed the honourable career of genius devoted to virtue, whose aim was to refine the manners and to mend the heart."

We may add a few words to the above. Elizabeth Griffith was of Welch descent, and her husband, Richard Griffith, was also an author and a gentleman of good family in this country. Mrs. Griffith's maiden name was the same as her married name. The "Letters of Henry and Frances" comprised the correspondence between her and her husband before their marriage and for some years afterwards. They were published at the request of Margaret Countess of Cork, who was one of Mrs. Griffith's friends and confidants in this connection. It is not every couple who would like to publish their correspondence either before or after marriage; but we daresay the above letters were to some extent written with a view to publication. The dramatic pieces of Mrs. Elizabeth Griffith were as follow:—"The Platonic Wife," "Amana," "The Double Mistake,"

"The School for Rakes," "A Wife in the Right," and "The Times."

A few more "Deaths," and we are done for the present. On the 7th January, 1793, "at Coolavin, Co. Sligo, Myles McDermott, Esq., commonly called the Prince of Coolavin, a gentleman whose extensive information, easy manner, and hospitable turn of mind proved his noble descent, and endeared him to a numerous acquaintance, who now sincerely deplore his loss." On the 8th, "Capt. Hyland, of one of the canal passage boats, tumbled over board and was drowned." On the same date, "At Clontarf, Miss Penelope, niece to the late Earl of Aldborough"; suggestive of memories of Aldborough House, now Barracks. On the 11th, "At his lodgings in Peter's-row, Rev. Dr. Warren Sandford, in the eighty-fifth year of his age." Same date, "At Ballyroe, near Freshford, Mrs. Grace, aged 108." On the 12th, "In Hamilton's-row, Mrs. Smith, eldest daughter of the late Dean St. George, and niece to the late Right Hon. Nath Clements."

To any one with spare time to pursue the thread of family history, interesting associations might be traced in connection with the above excavated records of the dead past of Dublin and other Irish places.

The frost of 1739-40 remained long in the recollection of Irishmen, from its great severity, the destruction it caused of animal and vegetable life, and the intensity of the famine that succeeded it. Though upwards of a century had passed when, in 1846-7, Ireland was visited by another famine, still tradition kept the memory of the one of 1739-40 fresh in the recollection of our countrymen. The causes of each were different. A severe winter and long frost led to the first, but the principal cause of the last was the nearly total failure of the potato crop. We had several severe frosts in Ireland and partial famines, but the frost of 1739-40, though shorter than some previous frosts in this country, was more severe while it continued. That of 1708 extended to England, France, Germany, Italy, and almost all of Europe, and lasted about nine weeks. The frost of 1715-16 lasted the greater part of ten weeks, and was common to England, Ireland, and other parts of Europe. The frost of 1739-40 lasted seven weeks, and was common to England, Scotland, Ireland, France, Germany, and all Europe except Spain, which suffered much from floods in that year. In 1708, it is said, the ice was 9 in. thick, and, we have it stated, that during the intense frost of 1739-40 it was 18 in. or double as thick. Great havoc was made at the latter date with animals and vegetables, and the potatoes were rotted and destroyed over the kingdom, but the parsnips escaped, and in some places the turnips. The hardy evergreens were killed, and so were the furzes and many oaks. Many of the wild birds perished, particularly snipes, field-fares, quails, and most of the small birds, with the exception of sparrows and robins. The grouse is said to have escaped better than most land fowl living on heath. The sea fowl also escaped better. The population living upon the sea coast in some places fared better than those inland, being supported by shell-fish and sea-weed, etc. Many fishes died, and also quadrupeds, and during the thaw there was a rot among the sheep which destroyed a great number. The deer and rabbits perished in hundreds; out of 2,000 of the former in the King's Park, 800 were computed to have perished. The rabbits were not again so plentiful for 8 or 9 years. There were several instances of men being killed by the intense severity of the cold.

The effects of all great frosts in Ireland were much alike. That of 1708 was destructive to vegetables and to mankind, and birds and fresh-water fish were destroyed in great numbers. The diseases also produced by the frosts were similar. In 1708 there was great mortality among infants, old men and invalids. An old writer characterises the diseases prevalent—"Coughs, destilla-

tions, pleurisies, peripneumonics, hæmoptoes, asthmas, besides an uncommon frequency of apoplexies, suddenly mortal vertigos and gouts." In the frost of 1715-16 there were "many colds, pleurisies, ophthalmics, &c." The diseases in 1739-40 were much like those in relation to previous years. Dysenteries were prevalent over a great part of Europe in the summers of 1666 and 1684, both intensely hot and dry, which were preceded by very cold and severe winters. Dysenteries were alike prevalent in Ireland in the summer of 1740-41, which were also hot and dry.

Apropos to the above note, an historical incident may be recorded here. Obelisk Park, at Stillorgan, is so called from a lofty obelisk erected in these grounds, by Lady Pearce, for the employment of the poor during the scarcity of 1741. Lady Pearce died July, 1749. She was the wife of Sir Edward Lovet Pearce, the architect of the Irish Parliament House, who died at his house in Stillorgan, in December, 1733. Sir Edward Lovet Pearce and his wife are interred at old Donnybrook Church. The Right Hon. Lieutenant-general Thomas Pearce, who "was at once governor, mayor, and representative in parliament of the City of Limerick," and who was a brother of the architect, was re-interred at Donnybrook, his corpse being removed from a vault in Christ Church to the former place in January, 1738-9. Perhaps it may be as well to state here that the design of the Irish Parliament House has been attributed by more than one authority, to Richard Castles or Cassel, the architect of Leinster House (the Royal Dublin Society), the Rotundo Lying-in Hospital, and other public buildings. Mr. Gilbert, however, in his "History of Dublin," brings forward documentary evidence which appears to set the matter at rest, and in favour of Pearce. Notwithstanding this evidence a belief still exists, strengthened by statements published at the time of the building of the Parliament House, that Castles supplied the designs, and to Sir Edward Lovet Pearce only belongs the credit of carrying out the work which was not completed when he died.

THE CHESTER CATHEDRAL "RESTORED!"

UNDER the above heading, Mr. Samuel Huggins writes a long letter to the *Athenæum*, to which we would direct the special attention of all "church restorers." We will venture to quote a few passages, whilst we regret that we cannot print it *in extenso*—

"The local papers are loud in their congratulations of the Dean of Chester on the completion of his elaborate undertaking, the 'restoration' of the cathedral now about to be re-opened. I am sorry to sound a dissonant note amid the grand symphony of praise and admiration that is or will be lavished on the occasion. But I cannot let the opportunity pass which the attraction of public attention to the subject by this event will afford of exposing the true nature of a practice which I believe to be most mischievous and disgraceful to the intelligence of the age. The cathedral, I have no doubt, is now in a complete state of preservation. . . . But let it be considered for a moment at what sacrifice this preservation has been effected—namely, the absolute identity of the cathedral, as far as the exterior is concerned, and the case is greatly altered. The preservation has been brought about, not by simply repairing the old building, but by, in a great part, obliterating and extinguishing it; rendering it no longer Chester Cathedral, as everybody knew it once, and not only knew it, but felt and loved it. . . . Lord Byron, as every one knows, poured out, in his 'Childe Harold,' the full measure of his wrath against the Earl of Elgin for his spoliation of the Parthenon, and rejoiced that it was no son of Albion that had done the deed. What would he have said to the infinitely more destructive 'restorers' of our cathedrals? Lord Elgin, I believe, destroyed nothing. He abstracted the sculptures from the pediment and other parts, but to be far better preserved in our national museum than they would have been on the Acropolis at Athens; and he did no injury to the building itself, which remains to the present day, with all its refinements of line and detail, for the future redemption of ar-

chitecture. But the 'restorer' utterly destroys all sculpture, and leaves no refinement or grace behind him. The buildings, which he despoils, are henceforth of no artistic value, and no man of taste would wish to see them. . . . Suppose a tourist in the East was shown a tent of black goat's hair, like those which the nomad descendants of Ishmael now pitch on the sands of Arabia, as the veritable tent of the patriarch Abraham, wherein he entertained three angels, but, on examining it, he found it had been covered with one large patch of new material, would he not feel and express himself as disappointed? The exhibitor might explain that it was Abraham's tent *restored*, but could the tourist boast that he had seen Abraham's tent? I think he could not. With almost as little truth could the visitor to Chester to-day say that he had seen St. Werburgh's Church—its nucleus, the venerable tower, and all the most prominent elevations, having been renewed. Do not suppose that I would have advised the abandonment of the old structure to the mercy of the elements. I would have preserved it by every truly preserving process, and by these it would have held its own sufficiently long, and continued fit for use even on great occasions. For the ordinary daily service I suggested the erection of a large additional wing, in harmony with the original pile, which would have added, as it were, another chapter to its architectural history, and enhanced its variety and beauty. By this course the ancient pile would have been left with all its venerable beauty and ecclesiastical interest intact, and augmented, by a new building or chapel, accommodating say two or three thousand worshippers, at a cost of about £40,000. By the course taken we have the cathedral sentimentally all but extinguished, at a cost of £100,000. . . . We have no certain knowledge of the original design and character of the building, or what it was in its pristine state, and if we had such knowledge, sculpture of the quality of the present work could not reproduce it; as a comparison of some fragments of the old carving left on the west door and Consistory Court, which evince the greatest depth of feeling and devotion in the carver, will abundantly attest. Let me not be understood as finding fault with the manner in which the work has been executed. Chester Cathedral is as well 'restored' as any other, and I have nothing to say against the work as work of the present day. My aim is to show that all modern work must necessarily fail to replace the mediæval. . . . But I believe that thoughtlessness of the laity and undue influence of the clergy are the most fruitful sources of this evil. Few people in this busy age take the trouble always to think before they act, more especially when the course of action is dictated by their pastor. A large proportion, I am persuaded, of the fund for the operations on Chester Cathedral would have been withheld had the donors given the appeal to their piety in its behalf an hour's consideration. Nay, a moment's thought would surely have sufficed in the case of those of the mental calibre of Mr. Gladstone and the Duke of Westminster, who are, I believe, among the number. But few would suppose that money placed in the hands of clergymen for church purposes would be at all misapplied; fewer, that it would be applied mischievously. Not a few, doubtless, have imagined that, in giving money for the renovation of God's house, they were laying up treasure in heaven."

ORGAN BUILDING IN IRELAND.

THE subjoined appeared in the *Carlow Sentinel* of Saturday, and we have much pleasure in transferring it to our columns:—

An esteemed correspondent furnishes us with the following particulars, which we gladly print, as a graceful recognition of Irish art and industry, which we are happy to know finds encouragement amongst our Bagnalstown neighbours, whose example in this respect will, we should hope, be very generally followed:—

A splendid new organ has been erected in the Roman Catholic Church, Bagnalstown, by the well-known firm, Messrs. Brown & Son of Dublin. It is a large and powerful instrument, consisting of two complete manuals and pedal organ, contained in a beautifully-finished Gothic case, of a bold and massive character, designed to harmonise with the style of the church, in which it forms a striking feature. The front pipes are handsomely illuminated in gold and colours. It is not only a fine work of ornamental art, but is equally satisfactory in its musical effects—grandeur of tone, added to charming variety and sweetness. The touch is light, even, and noiseless. All the intricate mechanism is of the most improved construction, finished with the greatest nicety and exactness, and in all respects it is an admirable instrument, reflecting much credit on the skill of the builders.

HEALTHY HABITATIONS.*

(Concluded from page 242).

VENTILATION should be so perfect as to permit even of the withdrawal of any lighting gas which may have escaped, or at least for a sufficient dilution of the gas to prevent the recurrence of such disasters as the late one at Arbroath, where three people perished by suffocation. The results of gas-poisoning have been carefully noted, and the reports of the necropsies given by Dr. Lochie, of Sunderland, in which city a youth of 18 years was poisoned, and by Dr. Sneddon, of Beith, where a man aged 30 and a cat perished together. Within the past two years leaks from gas-pipes also caused explosions, which resulted in the loss of three lives at Southgate and two at North Durham, and London has but lately to lament the loss of Dr. Foster by a similar calamity. Serious explosions have also occurred at Sheffield, Wirkworth, Rochester, Ashbourn, and doubtless an endless number of unreported places. Sometimes gas has escaped into the house from leaks in the main outside, and gas will creep along underground for an astonishing distance. It has been traced for thirty feet, and even across a roadway on one occasion. The only cure for this evil is to compel the companies to insert stop-valves in their mains, so that the flow of gas from a fractured pipe can be prevented pending its restoration.

But I would recommend more than this, and nothing less than the compulsory testing by the gas companies of the house pipes before their commodity was allowed to pass through them. And I would insist upon the pipes being tested every time the reading of the meter was taken. With our system of working, the gas companies are independent of the leakage going on in the house pipes.

Now, in America, before the gas companies will make the connection with the meter they satisfy themselves that the pipes are intact. The contrivance used for testing is a force-pump of simple construction, and connected by a tube with the only one of the burners which has not been plugged up. If after forcing the air into the pipes the mercury rises in the gauge and remains steadily at the one height after the stop-cock has been shut off, the pipes are sound. But I have often seen the mercury dance up the pipe and disappear when the pumping ceases, in which case either there is a leak at the joint or a split at the weld, or maybe there is a plug left out behind the papering, as happened to be the case the other day, or peradventure something has happened to the composition piping. It would not matter very much certainly whether the gasfitter were bound to test the pipes before the gas company laid on the gas, or whether the gas company are compelled to test the gas before they connected to the main, so that the pipes were tested. I have seen here in London the most disgraceful jobs in the way of gasfitting which nothing but a systematic testing would have discovered. Another improvement which should be encouraged is the use of a gas regulator. The best one I know can be seen in use at Judkins, of Fleet-street.

As we perambulate through our ideal mansion, the next thing we would likely take notice of would be the water-pipes and the cisterns. In no house, whether the water supplied be hard or soft, should the water for culinary or drinking purposes be conveyed in leaden pipes. I will not insult my hearers by recapitulating the reasons for this precaution. Of late years the leaden-cased block-tin pipe has been found to obviate very many of the evils complained of in lead pipes, and it will always have good work to perform for the community. But a still better pipe is used in America, and steps are just now being taken to introduce it into this country. I refer to the glass-lined water and gas pipe, in which the water comes into contact with glass only, and in which there can be neither oxidation nor corrosion. The interior being smooth also, there is less friction, and consequently the flow of water can be carried

upwards with less pressure. Fortunately, too, the resisting power is very much greater than lead, and the cost is very little more than lead pipe. Those who have used it in America say that they would rather pay for this pipe than have any other fixed for them free of charge. It is constructed of an iron exterior casing, and between that and the glass is a compressible plastic substance, which is both a non-conductor of heat and cold. It is certainly a great advance upon everything that has yet appeared as a water or gas conveying medium, and deserves universal patronage.

One thing is quite certain, and that is, leaden cisterns should be abolished altogether, or confined simply to the supply cistern over the closets. I do not think either that galvanised iron cisterns are fit for the storage of water, inasmuch as zinc is a coarse metal easily oxidised. Poisoning by the oxide of zinc deposited in the cheaply galvanised iron cisterns and along the zinced pipes have been somewhat frequent. Thus, too, we have been obliged to discontinue the use of zinc-lined kitchen utensils. Paper collars also, when they were covered with zinc white, caused eruptions around the neck whenever the perspiration dissolved the zinc coating. I believe the best and handiest material for cisterns will be found to be slate, enamelled inside. I always specify them, if used for drinking water, in order that the least dust within will be discoverable at a glance.

When a house is supplied with well water only it is wise to periodically analyse it. Seventy-five per cent. of waters sent from the country have proved on analysis to be unfit for use. I have a client at the present time residing in London who has fled a magnificent country seat simply because not a well on the house premises can be found to yield good water. When sickness first seized the establishment the drainage was suspected, and certainly some serious evils were laid bare and remedied, but nevertheless the unhealthiness continued, and at last the water proved to be the delinquent. And the strangest part of the matter was that the water, which had been considered the best on the estate, and which had not long ago been brought into the house at great cost by a neighbouring plumber, proved to be the very worst sample of the lot. Wells are more often than otherwise poisoned by the infiltration of sewage matter, but not unfrequently are they made unwholesome by the introduction of lead suction-pipes. When a well has been found impure, and it becomes incumbent to sink another, I make a trial of the most likely spot with the aid of a tube well, and if the discovered water proves to be good on analysis I sink a well there. Several of these tube wells are now, however, driven at intervals apart, and, united by longitudinal pipes, are brought to one spot where a pump is fixed. This is often found to be cheaper and even better than sinking a well.

Many residences in the country are entirely short of water, taken either direct from the river or raised from the water-bearing rocks. There is therefore nothing remaining for them but the utilisation of the rain water. But in such cases I carefully exclude the supplies from lead flats, and use them in the soil drains for flushing. In every case, however, where rain water is used for drinking and cooking purposes it should be well filtered. Sometimes I use a simple filter of one chamber, the water rising through sand and gravel, and in a general way this is sufficient. But cases do occur when it becomes necessary to interpose a depositing tank previous to the water finding its way into the cistern, and when one must also use a more compound filtering media, as, for instance, chalk and charcoal, and shingle or sand. And when the sole supply of the house is derived from the rain water collection tank, especial care should be taken to keep the gutters and downspouts in a cleanly state. It is perfectly astounding what impurities will collect there in a few months, what a load of

fecal matter, and what dead atomies of winged life. And not only should an overflow be provided for the tank, but a drain from the bottom, fitted with a plug and spindle, so as to facilitate cleaning. These drains should not, however, lead into the soil drains. For the rest, a large ventilating pipe should be led up out of the tank to the open air.

I am surprised, considering how long the cylinder system of hot water heating has been known, to see how persistently our best engineering firms continue in the use of the huge boiler at the back of the fire, and all its liabilities to explosion and other drawbacks. So thorough a case has been made out against the system that I am sure everyone is acquainted with its demerits. Indeed the very method of its supply—from the often filthy small supply cistern in the corner, or in the dark cupboard, or even in the wall—is enough to prove that there is too much of the hole-and-corner business in it to guarantee perfect cleanliness. On one occasion, in Wimpole-street, London, I saw the small cistern mud thick with the remains of dead beetles and cockroaches, nor would the defilement have been discovered had not the decoction in time discoloured the water and induced a search.

In the cylinder system of hot water supply—and I never in any case recommend any other for washing up or for bath water—I use the Dyer patent. The cold water is at the top of the house, and the hot water cylinder near the fire. There is no need of a circulating hot water cistern upstairs, neither of any small feed cisterns downstairs. The cold water from the upstairs cistern enters near the bottom of the cylinder, and the boiler of the apparatus is of the smallest possible size. Should frost set in, and no water flow from the upper cold water cistern to the cylinder, so as to force the hot water up, there will simply be a stop to the supply of the hot water for a time, but as the cylinder will be nearly full of water all the time, the small boiler will always be kept charged, and remain so until the frost surrenders. It is impossible to empty the cylinder from any of the taps, although it is in the power of the master or mistress to open a sluice-cock and empty it when it requires to be cleansed out. It may occur, of course, that a small boiler in connection with the nursery or still-room fires would prove a great boon, and there is no objection to these. But there is too the large coffin-sized boiler at the back of the kitchen and scullery fires, it being a perpetual menace to the lives of the household, and worse than the sword of Damocles. With the cylinder system it is also possible to heat a few coils for warming the rooms and passages; but the coils should be galvanised if the water is wanted free from discolouration.

People are now so tired of being lectured upon drainage, of the danger of laying pipes under houses, of using bad drain-pipes, and not truly turned ones like Stanford's; of the propriety of a good fall for the pipes; of good joints free from stuck-up shirt collars of cement inside; and have so often been told how a coating of tar round the outside of the pipe will prevent the entry of roots at any joint, that they smile simply, and hazard an opinion as to their entire acquaintance with all that could possibly be said upon the subject. This boast would, however, be a fallacious one, for to an engineer in good practice nearly every week brings a fresh fact to startle him as to what evils may be silently working mole-like underground, and sapping the health of the too trustful ones. Too much can scarcely ever be said regarding the danger of permitting old cesspools and brick drains to remain inside a house, and of the propriety of even searching for them, if the house be an old one, the very moment that the first smell is manifest, or when the first rat crosses the Rubicon. I look upon the sewer rat as really a beneficent animal, sent by Providence to warn us of the possibility of sewer-gas eruptions. He is to cleanliness in the drain what the *Cimex lectularius* is to

cleanliness in the bed—a sort of moral *gendarme* flying in the face of danger even to bid you be wise in time. And just as I would search for old cesspools and brick drains and abolish them, so would I get rid of all the filthy places in and about the stable yard, the garden, and even the kitchen offices, and replace them with earth contrivances of automatic action.

I never look upon the word trap in a book, or see one, but I am reminded of the deceptive character of the article. We must have traps I know very well, but we do not require many save in the streets, at the gullies, or just before the house-drain enters the main-drain, the sewer, or the cess-pool. We try to cut off all connection with the sealed drain by the insertion of an article not much larger than an old-fashioned watch, and with a water seal hardly thicker than its silver back, and believe we can resist the influence of gases generated in about, say, ten miles of sewer, and seeking an entrance into the rarefied atmosphere of the house. The idea is monstrous, and ought to have needed no Dr. Fergus to have laboriously ridiculed it. The best trap is the syphon-trap, when it is a syphon, but I have seen so very many imperfect syphons, both in earthenware and lead, that I would almost insist upon having a worshipful order of syphons, in order to obtain a hall-mark upon them, and so be certain that they really trapped. I took out of a mansion the other day in Lincolnshire a leaden bend supposed to trap, and which a plumber had not long put in, and I characterise its condition and beauty of shape sufficiently when I say that it is now in the museum of the establishment, and duly labelled.

I am almost forgetting our imaginary house, but we will see the state of our waste deliveries. Does the cistern overflow deliver into the soil pipe?—cut it off. Does the bath waste so deliver?—cut that off. Do the sinks of the housemaid's, butler's, and house-keeper's rooms so deliver?—cut them off also. Let nothing go into the drain direct, and disconnect in every direction. But what is disconnection? Well, if you take the cistern waste-pipe out of the soil-pipe, or out of the rain-water pipe connected with the drain, and allow the cistern waste to deliver in the face of day upon the roof or the pavement below, that is disconnection. If you find that the waste-pipe of the lead safe under the water-closet goes into the soil-pipe, and thousands do, or into the D trap, and if you make a simple hole in the wall, and put the lead waste-pipe through it you have disconnected such lead closet safe. In like manner, if the kitchen or scullery sink runs direct into the drain, trapped or otherwise, and if you lead the waste-pipe out through the wall, and cause it to deliver in the open air over a grease trap, or just under a ventilating grid, that kitchen waste has been disconnected. Formerly it was deemed sufficient to interpose a small body of water between the inside of the house and the drain; but now, in place of this, we interpose an open air space between the trapping water in the drain and the ends of the waste outside the house. The rule is now to allow a current of fresh air freely to travel from the disconnecting tanks up the soil-pipes, and so out at the roof, the constant action being maintained by the adoption of a foul air withdrawing cowl. Instead of the house drains containing pent-up gases and foul air they are now made into highways for fresh air, and the difference in favour of health is self-evident. No matter what pattern of closet be used—hopper, pan, or valve, the latter with or without D traps, if this disconnection be carried out with the soil-pipe—and Mr. Field was, I believe, the first to venture upon so bold a course—if there be a momentary exposure of the wastes, from that moment of exposure the house is safe. Between the foot or two of exposure and the larger drain, the sewer or the cesspool can be but a syphon, and nothing will force that, or if gas does so on any one occasion it will simply rise out of the disconnecting chamber

up through the grating, and be harmlessly dispersed in the open air.

Lord Byron bade his readers of "Childe Harold" farewell on the banks of the ocean, and the idea was in keeping with the high sustained character of the poem. In like manner I will bid my hearers adieu at the edge of the dust-bin, that microcosm of good and macrocosm of evil. How many fevers have been traced to that sarcophagus-looking box, to that mausoleum-looking tomb under the arca steps, or in the vault of the close back yard? I think the only cure is for the authorities to forbid the mixing together of kitchen refuse—and this may mean anything, from the lungs of a hare to the stalk of a lettuce—and the dust proper, that is the ashes and the house sweepings. I would also forbid the placing of the dust-bin below the floor level. Your time will not permit me to say more at present, but I have indicated, I hope, some of the chief reasons why houses prove unhealthy, and with your leave will revert to others on some future occasion.

THE BRITISH ARCHEOLOGICAL ASSOCIATION.

THE Cornwall Congress of the Association opened on the 14th ult. The Corporation of Bodmin gave the members a warm welcome. The dinner, at which Lord Mount-Edgumbe presided, was largely attended. The company assembled afterwards at the Guildhall, where the Mayor and Corporation presented an address, and the President read an inaugural paper. At the close of Lord Mount-Edgumbe's able address, the Rev. W. Iago gave an interesting account of the antiquities of Bodmin.

On Tuesday, the 15th, an excursion was made to Lanteglos and Tintagel, and other places; but to describe matters in detail of the several days' proceedings would fill a volume. On the visit and inspection of Tintagel a discussion took place as to its date. Prebendary Kinsman said Tintagel was among the churches mentioned in the Oxford Glossary as showing Saxon work. Mr. Godwin quite believed that there was a church there once, but doubted if any part of it now existed. Mr. Bloxam quite coincided with Mr. Godwin. The party next visited Tintagel Castle. In the evening, after the return of the members, a meeting was held in the town hall, when the Rev. D. Margoliouth read a paper on the "Pros and Cons of the Etymology of Certain Words in the now Obsolete Cornish Language." In it he claimed to trace philologically four distinct periods during which the Jews lived in Cornwall. Mr. Godwin, who presided, and Mr. S. Tucker spoke of the paper as valuable, and suggestive of discussion. Mr. Kerslake, of Bristol, contributed a paper on "Early Cornish Saints," showing, among other things, that of 200 known dedications of ancient churches about three-fourths were national or Celtic.

On Wednesday, 16th, the archaeologists visited St. Benet's Priory, the Church of Lanivet, and afterwards the romantic Castle of Restormel and other places in the vicinity. From Lostwithiel the party proceeded thro' Boconnoc Park to St. Neots, visiting the church and holy well there. After the return of the excursionists, at the evening meeting, a valuable paper was read on "Cornish Histories," by Mr. Sewell Stokes.

On Thursday two-thirds of the party proceeded to Launceston and a third remained behind, and, under the guidance of the Rev. Mr. Iago, visited the temporary museum, and explored the parish church of Bodmin. At eleven o'clock a number of the archaeologists met together at the town hall, where they inspected a number of antiquities there brought together. A paper was read at the Jamaica Inn to the party who visited Launceston, by the Rev. J. Wilkinson, "On the Castle of Launceston." In the evening the Mayor of Bodmin welcomed the Association at the Guildhall, and a conversazione was held. A short paper "On the Horn of the

Celts" was read by Dr. Phené. After compliments were exchanged between the Mayor and the Association, the Bodmin portion of the Congress terminated.

On Friday, Truro was visited, and the party was received at the Royal Institution of Cornwall by the President (Mr. Jonathan Rashleigh), Dr. Jago, and Dr. Barham. After other places of interest were visited in the town, and a dinner was partaken of by the members at the Royal Hotel, the party proceeded to Penzance, which was reached on Friday night.

On Saturday morning Land's End was visited, and romantic sights and scenes enjoyed. Seated on boulders, overlooking the sea, a paper was read to the archaeologists here, by the Rev. Lach Szyrma—"Notices of Land's End in History." At Penzance in the evening, at St. John's Hall, Mr. R. N. Worth read a paper, entitled, "The Ancient Boroughs of Cornwall, with Notes on their Arms and Devices." The Rev. S. Mayhew followed with a paper "On Relics of Baal-Worship." A discussion followed the reading of this paper, and the subject was of interest from an Irish point of view.

We regret that we are obliged to give such a scanty outline of the proceedings of the Association. The Congress at Cornwall was replete with interest. In our next issue we may take notes of the closing day's proceedings.

EMPLOYERS AND WORKMEN—ENGLAND AND SCOTLAND.

PARTIAL strikes in the building and other trades continue in the sister kingdom. At Bristol, a settlement has been effected between the operative builders' labourers and the Federated Association of Employers of Labour. 1,200 struck work on the 7th ult. for an advance of 3d. an hour, making the minimum wages 5 1/2d. per hour. On Saturday last an understanding was come to for the acceptance of 3d. advance, and thus the strike terminates.

At Chester, though the masters have offered the "Liverpool terms," the men still remain on strike. The masters, it is said, are willing to refer the matter in dispute to arbitration.

At Glasgow, a number of the masters and workmen are still in opposition, neither party showing an inclination to yield. At a meeting of the joiners it was stated that several additional employers had signed the bye-laws, which would reduce the number on the strike roll by 200. At a meeting of the masters, they have resolved to adhere to their former resolutions in resisting the demands of the operatives.

At Musselburgh, the master joiners have granted an advance of wages of 3d. per hour to their workmen.

A conference of builders' labourers was held recently in London, for the purpose of discussing and arranging a plan of national federation. Delegates from several provincial districts attended. What was intended was to effect a union between the bricklayers and builders' labourers in England, Ireland, and Scotland.

In the quarterly returns issued on the 8th ult. by Mr. J. D. Prior, the general secretary of the Amalgamated Society of Carpenters and Joiners, it appears there has been an accession of nineteen new branches during the quarter, principally in the northern and midland counties. The total number of members is 17,705, of whom 733 have been admitted during the last quarter. The financial statement shows a balance of £60,791, being an improvement of nearly £500 over the previous quarter, and nearly £4,000 over the previous year. The number of members on the sick fund is 245, and on the unemployed benefit fund 91.

A MONSTER HOTEL.—The *Irish World* says—"A company has been organised in St. Louis to build a new hotel to cost two million dollars, containing 2,000 rooms, and to accommodate 3,500 persons."

IRISH STAINED GLASS.

CHURCH OF THE HOLY CROSS, LIVERPOOL.

Among the many churches in Liverpool the church dedicated to the Holy Cross, in Great Crosshall-street, is a lasting memorial of the faith of those who have taken up their abode there in search of work by which they can support themselves and their families. It is situated in what may be called the Irish quarter, and was designed by the late celebrated E. W. Pugin, and is in truth a splendid structure. Of course, with a poor congregation very much yet remains to be done for the completion and ornamentation of this fine building, and the exertions of the Reverend Fathers of Mary Immaculate have been unceasing in completing the great work they have commenced. On entering the church one is struck by the three great windows of the chancel, which have been filled with stained glass, the centre window being devoted to the Holy Cross and the sacrifice of our Divine Lord thereon for the redemption of man, the dedication of the church is fully commemorated. The subjects chosen represent the cross, first, as the instrument of our Eternal Salvation in the greater portion of the three lights in which the Crucifixion of our Blessed Lord is portrayed—with His Blessed Mother, St. John, and St. Mary Magdalene, and attendant angels adoring. Beneath, in smaller compartments are in the centres St. Helen robed and crowned as empress, holding the recovered cross in her hand, which is wrapped in a richly embroidered veil. In the two sides are the discovery of the cross and its identification by the miracle of restoring to health the woman who lay dying. Above all, in the tracery, is the Glorified Cross appearing in the Heavens at the Day of Judgment, the sign of happiness to the just and of condemnation to the wicked. The two side windows have for their subjects figures of the patron saints of Ireland, one for each of the four provinces, thus filling the four compartments of the windows—Ulster, represented by St. Patrick; Leinster, by St. Brigid; Connaught, by St. Jarlath; Munster by St. Fintan. The entire ornamentation of these windows, which is of the richest character, have been executed by our fellow-citizens, Messrs. Earley and Powells, Camden-street Works, Dublin, whose names are already well-known by lovers of art in sculpture and painting.

INSTITUTION OF CIVIL ENGINEERS (LONDON).

A LIST of subjects for papers, for which premiums will be awarded in session 1876-7 is published. They are forty-five in number, and embrace a wide field of matters in relation to engineering and building construction, and of new mechanical appliances and processes desiderated. We give a few of the subjects:—

The Varieties of Clay, and their respective values and treatment, for brick-making, for puddle, and for the construction of Embankments, whether for railway purposes, reservoirs, or dock walls.

The Application of Steam Machinery for Excavating, and the Cost as compared with Hand Labour.

The Construction of Warehouses and other buildings for storing Goods, with the Special View of resisting Fire, and the relative Merits of stone, brickwork, iron, and timber for that object.

Road-making, with special reference to the Methods adopted in large Towns, or where the traffic is heavy, including a Comparison of the first Cost, Maintenance, and Durability of the different systems.

The different systems of Sinking Wells for Foundations in gravel and sandy river beds, and the best mode of obtaining foundations where the sand extends to depths of from 60 feet to 80 feet.

The Design and Construction of Masonry Dams of great height for retaining water in Reservoirs.

The Storage and Filtration of Water, both natural and artificial

The Distillation of Water for drinking purposes. The Constant Service of Water Supply, with special reference to its introduction into the Metropolis, in substitution for the Intermittent System.

The Appliances and Methods used for Tunnel-driving, Rock-boring, and Blasting, in this country and abroad, with details of the cost and of the results attained.

A History of any Fresh-Water Channel, Tidal River, or Estuary,—accompanied by plans and longitudinal and cross sections of the same, at various periods, showing the alterations in its condition,—including notices of any works that may have been executed upon it, and of the effect of the works.

The relative value of Upland and of Tidal Waters in maintaining rivers, estuaries and harbours.

The various descriptions of Pumps employed for Raising Water or Sewage, and their relative efficiency.

The employment of Wind and Water as Motive Powers, their relative advantages and disadvantages compared with Steam Power, and the Motors most suitable for utilising them in the best manner.

The Use of Gas as a Moving Power.

Compressed Air as a Motive Power, particularly as applied to Machinery in Mines and to Locomotives in Tunnels, with some account of its application on the Continent.

The Appliances and Processes for the manufacture of Patent Fuel, in Great Britain and abroad, especially in France.

The Council of the Institution have awarded premiums and prizes in the session of 1875-6. We must hold over the list until our next issue.

We may add here that a contribution to the funds at the disposal of the Council for awarding the authors of meritorious communications, would be a very desirable form of contribution on the part of the wealthy and well-to-do, who are interested in the advancement of science and art and the progress of civilization. The sums bequeathed to the Institution by deceased members and donors, for awards, are well and honestly expended.

TRADE UNION CONGRESS.

The ninth annual Trade Union Congress will commence on the 18th of September, at Newcastle-on-Tyne. Among the subjects for consideration are—A bill to amend the law of compensation in cases of accident, so that workmen or their families may sue an employer in the event of injury or death from accidents due to negligence; a workshop regulation bill for women and children; the extension of the Factory Acts to bleaching and dyeing works; reform of the patent law; an Act to prevent "Truck," by making compulsory weekly payments to workmen in the current coin of the realm. As an appendix to the programme there is a list of additional questions set down for discussion, including the following:—Representation of labour in Parliament, and the best manner to obtain it; co-operation in its relation to trade unions; piecework, overtime, and apprenticeships; arbitration and conciliation in trade disputes; the urgent necessity of providing a sufficient staff of efficient and practical inspectors to enforce the various acts relating to the regulation of mines, factories, and workshops; and a consideration of the best means of securing the efficiency of all persons taking charge of either engines or boilers.

CITY ITEMS.

MUNICIPAL PUNCTUALITY.

OUR Corporation is a model of punctuality. Since our last issue several meetings were called, but there was "no house"—no, not even a quorum—present to transact the public business. The Lord Mayor rated the members for their constant neglect, but procrastination is still rampant on Cork-hill.

ST. STEPHEN'S GREEN.

Several discussions and meetings have taken place on the head of this matter since the Corporation first accepted, and next rejected, Sir Arthur Guinness's generous offer. The Commissioners of St. Stephen's-green having refused to treat with the Corporation on any terms, a bill is about being promoted by the latter body to extinguish the Commissioners' rights. More waste of public money

and more waste of time, and the Green is likely to remain for a long period yet closed against the free entry of our working classes and citizens in general. Oh! for a dozen or two of honest and sensible representatives to infuse new blood into the councils of this most incompetent municipal body.

CARLISLE BRIDGE.

After long and wrangling discussions over the question of the re-building of Carlisle Bridge and the construction of a new bridge further down the river, the Corporation have carried a motion approving of the general plans of the proposed bridges, but have directed the Town Clerk to return the plans to the Port and Docks Board, "in order to have the gradients and measurements properly marked upon them."

MONUMENTS AND STATUES.

On the 17th ult., the Prince Consort Memorial was inaugurated in Edinburgh. It is an elaborate work of art, designed by Mr. (now Sir John) Steele. The Prince is represented in a field-marshal's uniform, seated erect in his saddle, his right hand hangs by his side and holds his plumed hat, and in his left he holds the reins of his steed, which stands on all fours, with its neck gracefully arched. The entire height, from the ground to the crown of the head, is 32 ft. The pedestal is 17 ft. high, and is composed of Peterhead polished granite. The horse and figure together are 15 ft. The bas-reliefs were executed by Sir John Steell himself, the other portions, the angle groups, were the work of brother architects, Mr. D. W. Stevenson and Mr. W. Brodie, R.S.A.

On the 15th ult., the statue of Dr. Livingstone, the African traveller, was unveiled. The statue is placed in Prince's-street Gardens, to the east of the Scott Monument. The explorer is represented in something like a Garibaldi costume, or sort of travelling uniform. The statue is about 8 ft. high, and appears to be rather small for the situation. The traveller holds in his right hand a Bible, and the left rests upon the shaft of an axe. In the broad belt that encircles the waist is stuck a revolver, and a small courier bag is slung by a strap from the shoulder. Strong lace boots encase the feet, and leathers garter protect the lower limbs. Mrs. D. O. Hill is the sculpture.

A statue of the celebrated astronomer, Tycho de Brahe, has been unveiled with great festivities at Copenhagen. The monument, which was designed by Bissen, stands in front of the Observatory.

Madame Van de Weyer and her children will be present at the inauguration of the statue of M. Van de Weyer at Louvain on the 17th proximo.

BOOKS RECEIVED.

Wood Conversion by Machinery. By John Richards, M.E. London: J. and W. Rider.

The Countries of the World. By Robert Brown, M.A. Part I. London: Cassel, Petter, & Galpin.

Plumbing: a Text-Book to the Practice of the Art or Craft of the Plumber. By William Paton Buchan. London: Crosby Lockwood, and Co.

Sanitary Works Abroad, &c. Extracted from the Annales des Ponts et Chaussées, and translated from the French by Robert Manning, M. Inst. C.E., Chief Engineer to Her Majesty's Board of Public Works in Ireland. London: E. and F. N. Spon.

HOME AND FOREIGN NOTES.

HOLYWOOD.—Plans prepared by Mr. Henry, C.E., for a water supply to the town of Holywood, County Down, have been approved. It has been resolved to borrow £1,058 for the construction of the works, such sum to be repaid in 50 years.

GALWAY.—The question of providing a patent slip or graving dock at Galway was discussed at last week's meeting of the Harbour Commissioners. The majority of members present decided on having a patent slip, which is to be constructed forthwith.

THE TREES IN SACKVILLE-STREET.—A shrewd friend suggests that the Corporation are purposely neglecting to look after the health of these trees, as their condition will shortly enable the Corporation, with some show of reason, to make a permanent appointment. Happy expectant municipal street gardener, how we envy thee, with thy wheel-barrow, shovel, and telescopic syringe!

Mr. Henry O'Neill, author of "The Sculptured Crosses," "Fine Arts and Civilization of Ancient Ireland," &c., has in the press a new work on the Round Towers, which will be issued in parts, accompanied by well-executed chromo-lithographs from sketches lately taken by the author. It is to be hoped that Mr. O'Neill will in this work throw new light upon the origin and uses of the Towers, and solve the "problem" that has puzzled the world so long.

THE second volume of the late Lord Dunraven's "Notes on Irish Architecture," says the *Academy*, is in a state of forwardness under the unwearied hands of Miss Stokes. It will deal principally with the Round Towers and Ornamented Romanesque Churches anterior to the Anglo-Norman Settlement; on the former problem the manuscript letters of O'Donovan and O'Curry, written when engaged on the Ordnance Survey, as well as the posthumous papers of Dr. Petrie, have been laid under contribution.

KILBARRACK GRAVE-YARD, HOWTH-ROAD.—The works (consisting of boundary-wall, gate-lodge, &c.) at this burial-place have been completed. An addition of nearly two and a-half acres has been added to the former grave-yard (celebrated as being the resting-place of the "Sham Squire") by the present Earl of Howth. The works have been carried out under the superintendence of Mr. Joseph Maguire, C.E., Great Brunswick-street. The contractor was Mr. Richard Campbell, Howth. The expenditure was close on £900.

THE CELLAR NUISANCE IN NEWRY.—The Chairman of the Commissioners said at the last meeting that he had looked into the law in this matter, and he found that in order that the cellars should be fit for human habitation they must be at least 7 ft. high in the ceiling, 3 ft. above the level of the foot-path, and possess a window to admit ventilation; also, an area of at least 2 ft. 6 in. to give air. The cellar must also have a water-closet and a pit for holding ashes. Mr. Carey and Mr. Meares were ordered to collect the facts, so that legal proceedings might be taken against the owners of these cellars.

THE HEALTH OF DUBLIN.—The total deaths registered in the Dublin Registration District during the week ending 19th August, 1876, represent an annual mortality of 165 in every 1,000 of the population, by the Census of 1871; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 162 per 1,000. In London the death-rate was 23 in every 1,000 of the estimated population; in Glasgow, 22; and in Edinburgh, 12.

AN HISTORIC HOUSE.—The house occupied for many years in Eccles-street by Francis Johnston, the architect, who died in 1828, is to be sold in December. It is a valuable fee-simple property, and contains many additions worthy of note made in the life-time of the architect. Mr. Johnston's wife lived here for several years after the death of her husband, and since her death the house has been occupied by some public men of note. The house possesses an interest from the fact of Johnston not only having been a celebrated architect in his day, whose works have added much to the beauty of our own city, but also from the fact that the architect was the founder and first president of the Royal Hibernian Academy.

CASTLEBAR NEW CATHOLIC CHURCH.—A correspondent of the *Freeman* writes:—"A special meeting was convened on yesterday by the zealous and indefatigable parish priest, Very Rev. James Magee, and the committee. The principal business was the adoption and consideration of plans and specifications, which were elaborately and artistically compiled by Mr. J. J. O'Callaghan, architect, of Dublin, who attended the meeting by special request. After Mr. O'Callaghan's plans, &c., were duly approved and highly spoken of by all present, the committee expressed their intention of advertising for a contractor, and that the works be commenced immediately. Already, I learn, £4,000 are in hand, but the cost will be £10,000."

IMPROVEMENTS AT ARMAGH BARRACKS.—A new contract has been entered into for the completion of buildings and works at the Armagh Military Barracks, which had been partially carried out by Messrs. Irwin, Ballybay. The new contractors are Messrs. Lowry and Son, of Belfast, who will, no doubt, execute the contract in a satisfactory manner. The new buildings will consist of a boundary wall, drill-shed, and canteen, and will be commenced at once. The military hospital is at present being proceeded with by this firm. A new guard-room is being erected by Messrs. O'Hare and Son, of Newry, and altogether there will be a sum of about £20,000 expended on these improvements. These works when completed will add considerable comfort to the troops stationed here, and will be

highly beneficial to the militia when called up for annual training.

ECONOMY OF FUEL ON STEAMSHIPS.—On Tuesday the paddle steamer Guiding Star left Liverpool for a cruise, having her forward boiler fitted with Jowett and Hunter's patent smokeless furnace. On the run to Llandudno the sea was very unpropitious, and tended to test new acquirements of marine engineering in the most exhaustive manner. The fore boiler was fitted with the furnace of Messrs. Jowett and Hunter, and during the whole trip the existence of smoke was only visible from the after funnel of the Guiding Star. The test of the new furnaces has not been attended without a severe criticism, as there were on board the steamer a number of shipowners, shipbuilders, and steamship engineers, who on the termination of the trip expressed themselves completely satisfied with the action of the new furnace and its great tendency to the reduction in consumption of coal—almost 15 per cent. On large ocean-going steamers the saving would probably be more than this. The apparatus is very simple, and consists of the following arrangement:—The ordinary fire bridge is brought nearer to the furnace door, thus shortening the grate bars, leaving space behind it for the introduction of a split bridge, through which air is admitted so long as may be required to consume the smoke. The admission of the air is regulated by a mercurial wheel, which can be made to close in any number of minutes required. Beyond this split bridge, and close to the crown of the furnace, is built an arch—formed of "bull-nosed" bricks; the air coming through the split bridge, striking the smoke coming over the bridge, impinges on this arch, which is heated sufficiently to ensure combustion of all the smoke generated in the furnaces. The mercurial wheel allows the air-door to be opened sufficiently long to permit the consumption of the smoke, and then closes. The utility of the invention to shipowners using steam power is, less coal to purchase, and consequently less to carry; giving more room for cargo, and therefore a decrease of cost and an increase of freight, besides having clean rigging—all of which considerations are not uninteresting to the steamship owners of this and other ports. This new appliance is equally suitable to land boilers, and its use on shore as on sea, will prevent the grievous nuisance of smoke.

ROYAL COMMISSION ON MUNICIPAL BODIES.—The following is clipped from the *Newry Telegraph*: So we are to have a commission to follow up the inquiry into the system of local government which recently elicited so many interesting facts concerning our municipal administration here. The personnel of the commission gives pretty fair assurance for the ability and completeness with which it shall be conducted, two of its members, Messrs. Exham and Lawless, Q.C.'s, having certainly sufficient local knowledge of most Irish municipalities, and the third, Mr. Ulvedale Corbett, having had many years' experience of the working of local government across the Channel to qualify him for the duty here. There is large scope for improvement in the constitution of our Irish Corporations, particularly our metropolitan one, the low status of many members of which has, for several years, been the subject of disagreeable notoriety. It is very hard to get eminent men to come forward to conduct the municipal business of their native city, when they remember that many of those into whose company they will be thrown are men who have risen from the very lowest ranks—not by force of intellect or education or even ennobling physical labour, but through the medium of that all-pervading curse—the liquor traffic. A better class of men is wanted to represent our city, and the forthcoming inquiry, by tending to expose the causes which contribute to this debased state of representation, may happily be productive of a remedy for it.

PUBLIC SQUARES IN AMERICA.—The correspondent of a daily paper, writing from New York, says:—"In some copies of your journal, which have come to hand of late, I see a good deal of discussion touching the opening of one of your squares—St. Stephen's-green. Such a thing as an enclosed square is not known, and would not be tolerated, in this country. In New York we have Union-square, Madison-square, Washington-square, &c., all in the centre of the city. They are open to every one, rich and poor alike. No railings, no gates. They are well provided with seats, where the poorest man in the community may sit all day long enjoying the surrounding fountains, shrubs, and flowers. Throughout America, and in any cities which I have visited on the continent of Europe, the open places or squares are invariably the most beautiful portions of the town. The railing-in process is peculiar to the British Isles; it is a barbarous relic of the middle ages, and savours strongly of 'the dog in the manger.'"

TO CORRESPONDENTS.

ARCHAEOLOGICAL SOCIETIES.—The Royal Historical and Archaeological Association of Ireland (whose head quarters are in Kilkenny) has, it must be allowed, performed a large amount of useful labour, and brought to light many historic documents of importance. It were to be wished, however, that we had some active archaeological society or adjunct in this city, which would hold periodical meetings and institute annual excursions, like the English societies. Connected with some of our city and suburban churches there is much historic matter of interest. The churches of the district of Fingal alone are worthy of illustration, and many of them have histories worth relating. Several of our Dublin churches have parochial records of great historic value.

PROFESSIONAL REPRESENTATION.—There is need for a few Irish Parliamentary members who would not devote their time and talents exclusively to political and religious interests. One great fault, too, is that those who do take up a question of a strictly professional kind, or one that should be treated irrespective of sect or party, injure the cause they advocate by giving it a political or party tinge by their remarks.

ARTIZANS' DWELLINGS.—Some remarks on the above subject and the working of the Artizans' Dwellings Act in Dublin, intended for this issue, are held over.

SANITARY.—The sanitary condition of our towns, according to the last Quarterly Return of the Registrar General, is improving. In next issue we may make use of these Returns to show how much yet remains to be accomplished in the way of Sanitary Reform.

C. E.—We may possibly make use of it in a future issue. Some correspondents must remain unattended to, their communications coming to hand too late.

NOTICE.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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PRESS NOTICES.

Athenæum.—We cannot now continue an examination of the contents of Mr. Brash's capital book. Let it suffice them that we recommend the perusal of the chapters on the churches of the Cistercian Order, Fonts, some of which have curious peculiarities, Masonry, and Early Christian Masonry. . . . Mr. Brash is a painstaking and accomplished student.

Academy.—Since Petrie gave to the public his (alas!) unfinished work on the Ecclesiastical Architecture of Ireland previous to the Anglo-Norman Invasion, the work which heads this article is the most important and valuable contribution to an interesting and almost unexplored branch of knowledge. . . . The volume does great credit to the enterprising publisher.

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VOL. XVIII.—No. 402.

Public Works in Ireland.*

FOURTH NOTICE—conclusion.

NATIONAL MONUMENTS AND ECCLESIASTICAL RUINS.



As I had intended to give some extracts from the works of Petrie, Brash, and others on points already alluded to, but we find these quotations would extend our notice to an undue length, so we shall pass on to deal with the remainder of Mr. Deane's report.

The superintendent of our National Monuments agrees with other of our architects and antiquaries that the Cathedral at Cashel, with its surrounding buildings, forms perhaps one of the finest ecclesiastical structures in this country; and it is not to be excelled for its picturesqueness of outline, placed as these buildings are on an eminence overlooking the plain of Tipperary. The dates are thus given by Mr. Deane:—Cormac's Chapel, 1135; the Cathedral proper, 1260 to 1270; the Bishop's Palace and Fortress, the House of the Vicars Choral, 1500; the Enciente and Bastion Towers, 1500. He is of opinion that, like nearly all the ecclesiastical buildings in Ireland, a restoration was effected late in the fourteenth century, of a more or less military character, the eaves of the Early English church being replaced by the embattled parapet, the long lancet windows curtailed in length, the western end converted into a strong fortress, and finally the whole enclosed by a loop-holed wall.

Mr. Deane then asks, What was the change in habits which thus caused the monks to protect themselves? Had luxury increased with advance of time? Was religion less pure? or was it that, owing to the half-conquered condition of the Irish race, rapine spread through the land, and things hitherto held sacred attracted the avarice of contending factions? These queries are not answered by Mr. Deane, but he says they are worthy of consideration, and in this we agree with him.

"The final stroke," writes the superintendent, "which nearly destroyed this noble building was the removal of its roof about seventy years since. On this vandalism I shall not comment." This act of vandalism is the subject of a note elsewhere in our pages, and its date is not seventy years ago, but 136 years since, in the time of Archbishop Price.

The points of interest alluded to by Mr. Deane are—1st. The springers and corbels of the arches in south and north walls near the piers of tower. Unusual, though, in position, he has no doubt that these were the commencement of an arcade of arches across the nave, which were to have supported the rood-loft. 2nd. The side chapel, corresponding with the south porch, projected on the north side. 3rd. That the pier and angle shafts at west end were a subsequent intro-

duction, with a view to vaulting this end of the church on an intermediate level, so as to utilise the upper portion as an addition to the domestic portion of the building.

Proceeding from Cormac's Chapel towards the east end, passing round the church, the following works of reparation are effected under Mr. Deane's superintendence:—The tops of the walls have been grouted with cement concrete, ivy and large weeds removed, open joints pointed, parapets secured and repaired, gutter stones cleared of decaying vegetable matter, and pointed with cement; the filling of the lower portion of lancet windows removed, but not the curtail-ing done in the fourteenth century; large buttress secured; sills of east windows restored, and modern filling taken out for about 3 ft. from sills. Similar works have been performed at north side of choir—trefoil windows over lancets opened, north transept side chapels restored, stones in general secured, and walls protected from the weather. These works of reparation seem simple enough, but they are of a useful and necessary character. They do not indicate that there has been a pulling to pieces, as we have witnessed at some recent church restorations, for the purpose of re-building according to the fancy of the "eminent architect" engaged.

The Round Tower, in conjunction with other buildings, has received attention, and has been pointed from top to bottom, and the conical roof, which had been in a very bad state, has had its stones re-set. At the end of north transept one buttress has been re-built, and one canopy restored. Mr. Deane, speaking of these canopies, says they deserve particular attention, from their beautiful design. A woodcut of one is given, and it is indicated that canopies somewhat similar may be seen at Salisbury Cathedral. At this end of the building also the barge course has been secured, and the gutters generally repaired. The latter one is described as of the usual type in Irish Churches—alternate stones, overlapping each other, the intermediate one being hollowed to discharge the water, the side ones convex to allow the water to run into the intermediate one.

Mr. Deane holds that there are evidences of three distinct dates of roofs—thirteenth, fourteenth, and fifteenth centuries,—and he has no doubt that the ceilings were flat and made of timber. On the north wall of nave the stepped battlements have been repaired. These battlements are now perfect, and are considered a fair example of this picturesque finish to wall. The rugged outline has been retained in other places, and the wall grouted with cement concrete. An illustration is given of the form of the battlements, and it is said that it is worthy of note that they were never entirely built of cut stone, the roof face of the masonry being carried to the summit of the building. The superintendent points out that, in some modern imitations of this characteristic battlement, the error has been run into of chiselling the whole, from the corbelling up, which is not only contrary to the ancient custom, but destructive to the appearance of the building. In his opinion, the whole of the upper portion of the walls of nave, from the tower to the fortress, is of the date of the latter; and he is also disposed to think that the western wall of the Cathedral is not in its original position, that the nave was prolonged beyond the sites of the south porch, and the chapel at north side. This is

evidenced, he considers, by the masonry at north side for some length being out of line with the superstructure of the domestic portion.

Dealing with the Vicars' Hall, the restoration of this building is recommended, for reasons which have been put before the Board. It is held to be of late date, part being as modern as the seventeenth century. It is said that "its insulated position, together with its domestic character, mark it as capable of complete restoration, without clashing with the ecclesiastical buildings which are essentially ruins, and should now remain so." The surrounding wall has been re-built, and although coped with a saddle-backed coping in long lengths, not in the superintendent's opinion in accordance with what originally existed, still he thinks that the long line of walls forms a pleasing contrast with the rugged outline of other buildings. At the south-west angle, the bastion there has been coped with stepped battlements similar to those it is said to have originally had.

The above works were placed in the hands of Mr. Deane on the 12th of March, 1875, and up to the 12th of March in the present year, the cost is thus stated:—Cost of work prior to Mr. Deane's appointment, £1,478 1s. 11d. Cost from March, 1875, to ditto, 1876, £839 4s. 7d., making a total of £2,317 6s. 6d. This is not a very large sum, but no doubt it covers some very useful work.

Coming to the works at Glendalough under the superintendent's charge, we find that the first building commenced was Trinity Church. The walls here were in a dilapidated condition, the growth of trees having nearly ruined the structure. The interior was cleared, and the ground surrounding cleared of rubbish. The missing arch and jamb stones were discovered and put in their original places, as also the jamb and arch of the small window at west end. The original steps, approaching the church from the higher ground, exist, and will be used again as means of access. The boundary fence and wall have been repaired. The gable over chancel arch is said to have required great care in its restoration, as it was on the verge of falling. St. Saviour's Church, full of architectural details, has been taken in hand, and the necessary works are being proceeded with. The Norman arch here fell some years ago, of which a few stones remained. The ring stones have been discovered among the rubbish, and the arch will be restored. The works at Glendalough are proceeding, and it is believed will be finished in a few months more. The total cost of reparation here is, up to last March, put down at £120 10s. 8d.

At Ardmore Cathedral and Round Tower the works of repair are said to be complete. The tower is stated to be the highest and most perfect in Ireland, and it was for a long time in a dangerous state. The conical top and upper storey have been made good, and the tower pointed in cement, and the timber floors, which were modern, repaired. The walls of the Cathedral Church have been grouted with cement concrete, the quoin of south angle rebuilt, the curious sculpture at west end secured in its position, and one of the missing figures, found in the debris at foot of tower, placed in its original position. The modern filling of north doorway has been removed and the ancient arch stones, found complete, restored to their

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* The Forty-Fourth Report from the Commissioners of Public Works in Ireland, &c. Dublin: Alexander Thom. 1876.

position. The chancel arch has been saved from danger of falling, and the sedilia restored. The graveyard here has been levelled to some extent, a caretaker appointed, and provision made for maintaining the ruin in decent condition. The total cost of repairs here was £359 5s. 10d.

At Ardfert, county Kerry, the works of repair are reported as commenced, but little progress is made as yet. It is stated that there is a difficulty of obtaining men skilled in the peculiar work required to be done in repairing these ancient buildings; and it is intended to take them in rotation rather than simultaneously, as the workmen engaged acquire skill, and can be transferred from place to place.

Mr. Deane concludes his report as follows: "I trust I may not be travelling out of my duties as Superintendent of National Monuments if I direct attention to the importance of enlarging the list of buildings now under the direction of the Government. There are numbers all over the country, which I pass with regret at my inability of doing anything to preserve them from falling into utter ruin. There are many Round Towers and churches worthy of preservation, which could be brought under the category of 'National Monuments,' and which a few pounds, judiciously expended upon, would save for centuries. Amongst these I would enumerate Hoar Abbey, Cashel; Inniscitra, Lough Derg; Kilmacduagh, County Galway; and others. Clonmacnoise is not at present included in the list, and there is no ruin in Ireland that ought to take precedence of it as worthy of preservation."

We quite agree with Mr. Deane that there are several important national and ecclesiastical structures in this country that ought to be included in the list, and which it will be a sad thing to witness crumbling to decay, and utterly perishing out of sight. In preserving our National Monuments we are preserving an important part of our history.

In conclusion, we will merely add that Mr. Dean's report is a very useful and interesting one, the drawings appended are well executed, but the woodcut illustrations accompanying the letterpress are rather rough and poor. In our notices we were tempted here and there, in following Mr. Deane, to enter into a criticism on opinions expressed, but we desisted, preferring to give, in substance, an account of the works performed, as stated by himself. We hope in the next or succeeding report of the Commissioners of Public Works to see further successful progress reported, and many additional ancient buildings for preservation added to the present rather limited number of our National Monuments now receiving attention.

A NOTE ANENT THE BRITISH ASSOCIATION.

THE British Association concluded a very successful series of meetings at Glasgow on Wednesday. Most valuable papers in various departments of science were read by members of learned bodies in Ireland as well as England and Scotland. Some of the daily papers gave pretty full reports, while others—some London morning papers included—gave the most meagre details possible, unless of days when something of a "sensational" character took place. The exigencies of a journal like ours render it impossible for us to devote but a very small space, indeed, to

the proceedings of the Association. We would only be too glad if we could spare room to give some of the papers at length, including some excellent ones read by scientific men hailing from this city and other parts of Ireland.

We are glad to see that the meeting of the Association for 1878 will take place in Dublin. We suggested, more than once within the last few years, that steps ought to be taken to secure another meeting of the Association, and also the holding of a Social Science Congress. We hope the latter will soon follow the former.

MESSRS. BURKE AND BROWNE'S PATENT SAFETY POINTS.*

WE had the pleasure on Monday last of inspecting, at the goods-yard of the Great Southern and Western Railway, King's Bridge, a set of these points laid down and in full working order. In our opinion the patentees have clearly proved the advantages of their invention, as they promised when bringing it before the public at the meeting of the Institution of Civil Engineers of Ireland in May last.

The simplicity of these points, and the absence of chairs, moveable rails, and well-greased oil-plates, to which we have been so long accustomed, at once arrested our attention. Instead of the moveable rails, cast-steel points have been substituted, firmly bolted to both rails and sleepers. On one side of the line there is a flat bar of steel, and a crank united to the connecting bar to switch-box, constituting the only moveable portion of this useful invention. This bar is only used when it is required to turn a train on to what is known at King's Bridge as "the new grain line." The crank holds the bar in its proper position, and, when so held by the pointsman, all strain is removed from the connecting rods—in fact, any amount of play might be allowed to them. It would appear that there is no necessity for adjusting rods, no matter from what distance the points may be worked.

Our visit having taken place at the busiest hour of the day, ample opportunity was afforded us of seeing the invention thoroughly tested, by engines and wagons constantly moving backwards and forwards, without any movement of the points taking place.

We learn that a large number of our engineers have expressed favourable opinions of Messrs. Burke and Browne's invention. We congratulate those gentlemen on this fact, for it is rarely we find Irishmen recognizing the outcomes of native talent until their worth has been proved in some other country.

WASTE AND IMPROVABLE LANDS.

OUT of over 15 millions of acres of arable land in Ireland less than 5½ millions are under crops, including meadow and clover, nearly 10½ millions being in permanent pasture giving no employment save to herds. Out of 4½ millions acres of waste lands, 2 millions might be reclaimed for tillage; but notwithstanding the facilities offered by the State in loans to the proprietors, the returns presented to Parliament from the Poor Law Unions in Galway, Mayo, and Donegal, with 50,000 acres of waste and over, show that, since 1847, out of 1,028,074 acres in these unions only 5,279 have been reclaimed by the proprietors under State loans, and 9,877 drained and improved; but we think these were other than waste, hence the necessity for the State adopting now Lord John Russell's proposal of a vote of 1 million sterling to buy, reclaim, and sell, with Landed Estates titles, in lots, the improvable waste lands. Between grazing and waste lands, lying now as unproductive as in Arthur Young's time, the country suffers.

* See IRISH BUILDER for May 15th, 1876.

Comparing a 700 acre farm in England or Scotland with a grass farm of the same extent here (480 Irish acres), we find that a herd and a couple boys only would be employed, the wages from £30 to £50; while in East Lothian, Berwick, Northumberland, Lincoln, or Norfolk the wages would be from £1,000 to £1,800 a year, the manures as much. Taking an East Lothian farm of this size one-fifth or 140 acres would be in potatoes, two-fifths or 280 acres in grain, and two-fifths or 280 acres in one or two year old pasture, the number of cattle and sheep fattened nearly as much as on a grass farm, though there are only 8 to 7 acres of permanent pasture. We would recommend those interested in agriculture to visit the Leopardstown and Foxrock Estates so near Dublin, where they will see 700 or 800 acres in tillage, and 200 or 300 being drained and improved. This example of the Benedictines should be followed, and grass converted into tillage, instead of there being a decrease in tillage of 375,937 acres during the last five years, that in 1876 amounting to 126,760. The Church surplus of 5 millions might be loaned for the purchase and reclamation of waste lands, and repaid on the sales.

We regret to see Waste Land and Cottage Building Bills introduced with clauses that would prevent them passing from the opposition of property owners.

Mr. Biggar's Bill gives the lessees of 10, 15, and 20 acres the rights of fishing and shooting on them, with all the royalties. Now, as these would be scattered through the waste land districts, the game would be destroyed and poaching increased, to which the owners ought fairly to object. Again, Mr. Biggar's Bill makes the Government land-renters instead of selling out their reclamation to pay for the outlay, and prevents any waste lands being sold by the State, as let by the State, in lots over 20 acres. In fact, this would be a return to the pre-famine times before 1848, establishing a lot of paupers.

We would support a Bill to purchase, reclaim, and sell, with Landed Estates titles, the improvable waste lands, as proposed by Lord John Russell in 1847, in his vote of the Government at the time, to expend one million sterling and sell in lots to suit all classes of purchasers. We would have 20, 30, 40, 50, 60, 100, 200, and 500 acres sold in lots after the lands were squared, roads made, and a system of general drainage established. Holland has proved how reproductive, paying, and beneficial to the State were the reclamations made on this principle. X.

ENGLISH "JERRY" BUILDING.

A CORRESPONDENT of the *Hackney Express* describes very minutely some houses intended for human habitation in course of erection at Hackney Wick. He says:—

"The design and construction of the houses are utterly bad, and so is a large amount of the materials and workmanship. An examination of the brickwork, mortar, plastering, floor joists, flooring, ceiling joists, rafters, and other timbers, will show their character. The timbers generally are poor and of insufficient strength, and exhibit make-shift construction. The general joinery work and plastering material must meet and deserve condemnation. I was perfectly shocked to witness the manner in which the workmanship in relation to the doors and windows, in many instances, was finished. Several of the door-frames, and the doors, and their petty trimmings, and boxings are remarkable examples of English slop-work joinery. Hall doors not much more than 1½ in., or under 1½ in. in thickness. The inside doors to some of the rooms I examined, I found not 1½ in., but nearer to 1 in. in thickness. Window sashes between 1½ in. and 1½ in.—scarcely more. Durable and lasting sashes these! The casings to several door-frames are wretched, and so with other casings, and the door-frames and

the doors themselves in their finished state are rough or full of saw marks. I have seldom witnessed more or worse finished off joinery work anywhere. No respectable London builder would tolerate such workmanship. Any joiner who would attempt to palm off such finished execution of work in a respectable London builder's workshop would be hunted out of the job by his companions. Independent of insufficient scantling of the joinery work, its finish would disgrace any builder other than of the "Jerry" class. Some of the ledge or batten doors I examined in the back and out-houses are so coarse in finish as to suggest that it was a harrow or a rough-jack plane that passed over them in what is called the "smoothing" process. The cement or imitation stone lintels or centres over the windows, &c., in front, are marvels of cheapness and expediency. In a few days the plastering of several of the houses (in skeleton state, as I write) will be finished, and numerous imperfections will be hid.

"In my former remarks I called the attention of the district authorities to these houses, with a view to their sanitary condition and surroundings being reported upon—foundations and drainage, cubic space, ventilation, and other matters.

"The stairs are of a break-neck character. They are boxed-in between a studded one-brick partition, the studs few and far between; they are very steep, are lighted by no opening, and have no regular landing. When the tenant or lodger reaches the top step, he can enter from it to either back or front room. What a model of contrivance—what an exquisite luxury—but, alas! what perils to human life are not forcibly illustrated in the position and construction of these model stairs! The inmates of these houses, in windy and severe wintry weather, are likely to have draughts down the chimneys instead of up them, for the height of the houses is below the height of the railway embankment alongside them.

"Before concluding, I would also remark that I found, on examination, a length of the roadway and footway in front of some of these houses made up of common rubbish and refuse matter. The stuff is what is generally known as "shoot" material, and, will it be credited, I found the kerb-stones along a portion of the footways bedded in with no other but this loose shifting ash, and unsolid stuff. The time has surely come for smiting down, with public indignation and the strong arm of the law, the nefarious practices of the tribes of "Jerry" builders, "scamping" builders, and "speculative" builders, and their aids and abettors, who have for so many years infested the London metropolis, preying like ghouls upon the vitals of our unsuspecting people."

Happy Hackneywickians! We pity you!

THE BRITISH ARCHEOLOGICAL ASSOCIATION.

To resume. On the afternoon of Sunday the members of the association, on the invitation of Mr. Borlase, made a quiet and agreeable visit to his museum at Castle Hornbeck, within a short distance of Penzance. Many objects of interest—antiquarian relics, &c.—were examined, which were executed from time to time on the hills and downs of the Land's-end district, and which have been described by Mr. Borlase in his "Nænia Cornubiæ."

On Monday, the 21st, there was an excursion to the pre-historic remains at Chun, otherwise Chywoone, situated amid the rugged scenery of the western peninsula. Here many remains of ancient dwellings were examined, and a paper was read by the Rev. W. C. Lukis on "Cornish Megaliths." The principal cromlechs were stated to be those of Lanyon, Chywoone, Mulfra, and Bosporthennis. After the reading of Mr. Lukis's paper, Mr. Borlase said he wished Mr. Fergusson and Mr. Lukis could have met in Boscawen-un Circle. Then it would have been a battle-field, if it

had not been one in the days of the ancient Britons. Mr. Lukis had never visited this part of Cornwall; if he had, he would see there were two different kinds of cromlechs—the common form and the cenotaph,—and would change his views. After Chun Castle and surroundings were inspected, and refreshment partaken of, the party moved off for St. Just. Standing on the remains of the amphitheatre, the Rev. Lach Szyrma read an interesting paper on St. Just. After the reading of the paper the party repaired to the church, where the Rev. H. S. Fagan pointed out the most interesting objects. Built in the wall of the north aisle was a shaft of a cross with interlaced work, generally regarded as Saxon, but Mr. Bloxam was of opinion it might date from the eleventh century. Chapel Euny cave-dwellings were afterwards visited, Mr. Borlase giving a description of their plan and the cyclopean character of the work. Mr. Borlase also gave a description of a perfect barrow, which excited much interest. On the way home the party made a short stop at Sancreed to inspect a cross in the church-yard, and the remains of an old rood-screen preserved in the vestry.

At the evening meeting, Mr. T. Morgan, F.S.A., read a paper on "The Fleets of the Ancients in Cornish Waters;" and Dr. Phené followed with some notes on "The Dragon of Cornwall—The British Dragon." A discussion followed, Mr. Planché expressing himself as being much interested in this paper.

On Tuesday, St. Michael's Mount and places of interest in the locality were visited. On the sands the Rev. W. S. Lach Szyrma read a description of the Mount of Leland's Itinerary. After a description of the Mount being given by Mr. Borlase, and some remarks by Sir John St. Aubyn, the Rev. Lach Szyrma read a paper on the military history of the mount.

The party were conducted through the castle by Sir John, the visit being made interesting by his descriptions, and the observations of Mr. Borlase, Mr. Loftus Brock, and Mr. Bloxam. While the guests were assembled for refreshment in the dining or Chevy-chase room, particulars about the room and its features were given by Sir John. Chysawster was next visited, and the noted hut-village of this place. Here curious habitations of a pre-historic date were examined. Next two of the most interesting antiquities of the district were inspected—the Maen-an-tol and Maen-skryfa. The subsequent objects viewed were: Lanyon Cromlech, some barrows, and Madron Holy Well and Church.

The evening meeting brought the congress to a close. Lord Mount-Edgcumbe presided. The members of the association and their visitors were nearly all present, and St. John's Hall was full. Papers were read by Rev. Mr. Lach Szyrma on "The Spanish Descent upon the Cornish Coast at Newlyn;" and by Mr. T. Cragoe on "King Arthur and the Knights of the Round Table," the author avowing his belief that King Arthur was a real historic personage. Mr. Planché (*Somerset Herald*) then read a paper on "The Earls of Cornwall." This was followed by one by Mr. S. Tucker (Rouge Croix) on "The Dukes of Cornwall."

At the close of the papers, Lord Mount-Edgcumbe reviewed the work of the association, and concluded by saying he fully believed that the visits paid by the association to the churches of central and western Cornwall would be found useful by the clergy, on whose ecclesiastical antiquities it had helped them to place their true value, and, on the other hand, he thought he might say that the members of the association would not go back to London without having gained some addition to their stock of knowledge from what they had seen in that region of Cromlechs and hut villages.

Thus the congress was brought to a close, which, on the whole, was a highly successful one. The members throughout their visits and excursions were well received and hospitably entertained, and a large number of the

papers read were of a very interesting and valuable character.

EMPLOYERS AND WORKMEN—ENGLAND AND SCOTLAND.

At Southampton on the 5th inst. about three hundred joiners, employed by the ship-builders and steam-packet companies, went on strike for an advance of 10 per cent., making their wages equal to the house joiners in the town. We believe their demand for 82s. a week has since been acceded to.

At Macclesfield the strike on the part of the painters is not yet at an end, though several of the employers are giving the wages demanded by the men.

At Glasgow, at a meeting of the operative joiners it was stated that the strike was virtually at an end. A motion was passed that no "knobs" be allowed to work alongside of trade unionists, and before being admitted into the society, should they resolve on that course, a fine of £1 each must be paid.

At Greenock, at a meeting of the society of operative masons of that town and the American masons, who arrived from New York to work in the employment of Messrs. Coghill, the Glasgow *Citizen* reports:—"The rules of the society were read over and explained to the Americans, and nearly the whole of them signed their names and were admitted to the society. The Americans while on the voyage from New York resolved to claim from the Messrs. Coghill payment of wages from the 24th August, the date of signing in New York the agreement to come to Scotland. The masons who had been accommodated with lodgings at Smithston—numbering about fifty—commenced work on Wednesday morning. The others are still in a very unsettled condition, and appear disposed to take a day or two's rest before beginning active operations. They complain very much of the lodging accommodation that has been provided for them, and the whole body are firm in their demand for wages from the time of their signing the agreement in New York on the 24th of August last. A number of them have positively refused to work until a definite arrangement is come to. The opinion is becoming very general in Greenock that this introduction of foreign labour is not likely to prove a very successful experiment."

At Nairn the carpenters came out on strike on the 1st for an advance of wages and nine hours per day. They ask 6d.—their present wages being 5d. per hour. The masons in the town are working only nine hours since the commencement of the year.

At Willenhall, the dispute still continues on the part of the workmen in the rim and mortice lock and key trade.

At Warrington, the strike of the flint glass cutters terminated on the 28th ult. The piece-work system, at first refused, has been accepted, and the price-list modified.

Throughout the north of Scotland the linen and damask trade is dull, and in some factories the hands are working only half time.

The strike of colliers in South Derbyshire still continues, the men being on strike against a 10 per cent. reduction. Eight hundred colliers have also just struck at Ilkston, and the position of affairs now in Derbyshire is somewhat dreadful.

At Sittingbourne, at a large meeting of labourers held on Tuesday night, in connection with the Kent and Sussex Union, the hon. secretary said that the union now numbered 12,000 members, and had a fund of between £3,000 and £4,000, besides others, such as the union sick fund, to which 7,000 members belonged, and which had a balance of £3,000.

KILLESTER GRAVEYARD.—A Local Government Board inquiry respecting the necessity of closing the old graveyard at Killester, will be held in the North Dublin Union Workhouse on the 13th prox.

NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.*

ON the re-opening of the theatres in October, Quin acted Justice Balance on a government night. It was the habit at that time in Dublin, and subsequently, to select the best performers for acting on fashionable and crowded nights. We find Quin playing for some time his Jaques, Apemantus, Cato, Richard, Sir John Brute, and Falstaff, for a while unsupported. However, on December 21st, 1741, Mrs. Cibber, the celebrated actress, who was then rapidly rising in her profession on the London stage, made her first appearance on the Dublin stage as Indiana, in the *Conscious Lovers*, to Mr. Quin's Young Bevil. This was a reinforcement of talent which was needed at the time. The agreement of Mrs. Cibber with the proprietors of Aungier-street was for three hundred pounds—a large sum at that time for a Dublin theatre to pay; but the proprietors were in a position to pay it, as Mrs. Cibber brought crowded houses, although no more than ten pounds was received for entrance money on her first night. The playing of Quin and Mrs. Cibber at Aungier-street was a stroke of good luck for the proprietors. Quin acted Chamont and Mrs. Cibber Monimia on several occasions, and both performers played together *Comus* and the *Lady*, the *Duke* in "Measure for Measure," and *Isabel*, the *Spanish Friar*, and *Queen Horatia*, and *Colistor*, &c. There was a good and successful run, and the public, the actors, and the proprietors of the theatre were well pleased.

Duval at Smock-alley Theatre now evidenced some energy, seeing that his rivals were having a run of good luck, and he determined on competing with them for the public patronage. He engaged Wright, an actor of merit at the time, who made his first appearance in *Lear*. Mr. Wetherhilt, Mr. Morgan, Mr. Elrington, Isaac Sparks, and Mrs. Furnival, together with Mr. Wright, formed, at the time, the principal part of Smock-alley company, none of whom, of course, could compete with either Quin or Mrs. Cibber, though some of them were very respectable actors. At this time, Duval also invited over from London Chetwood, who had been prompter at Drury-lane theatre for twenty years. Though Chetwood was no actor, his experience of stage arrangements was valuable in Dublin, and he introduced at Smock-alley mechanism and apparatus for working the wings not previously used in Dublin. Indeed the stage here at the time owed to him several of its improvements. Although not a native of this country, we think it would be remiss to pass over the name of this man, part of whose career had been so intimately connected with the Irish stage. We shall, therefore, give here some short account of his life.

William Rufus Chetwood was a bookseller once, and kept a book shop in Covent Garden. As a prompter afterwards at Drury-lane he filled his office with tact and ability, and he is credited with being a good theatrical instructor, many actors and actresses being much indebted to him. Spranger Barry, our great Irish actor, and Mrs. Fitzhenry, previously known as Mrs. Gregory, are stated to have been both indebted to the instruction they received from Chetwood. Mrs. Fitzhenry was a favourite for some years with Dublin audiences. Chetwood was twice married, and had by his first wife a daughter, who was bred to the theatrical profession, and who married a Mr. Gemea. His second wife was a grand-daughter of Colly Cibber.

In 1760, Chetwood was living in Dublin, and a play at the time was acted for his benefit, as he was then a prisoner for debt. In a note to the prologue spoken on that occasion, it was asserted that his old pupil, Barry, had refused him any assistance in his greatest distress. Chetwood was the author of several productions and dramatic pieces,

but is more generally known as the author of "A General History of the Stage." His dramatic pieces are—"Stockjobbers, or the Humours of Exchange-alley," 1720; "South Sea," 1720; "Love's Opera," 1729; "Generous Free Mason." Some writers have asserted that Chetwood's history of the stage has little merit, but Dibdin, and others who have acted as historians of the stage subsequently, have candidly acknowledged their indebtedness to that work. Chetwood's work on the stage is full of anecdote, and contains many interesting particulars of the lives of actors, English and Irish, not to be found elsewhere. Indeed if Chetwood had not written his work much interesting materials would have been altogether lost. Hitchcock, in his notice of the Irish Stage, was much indebted to the work of his fellow-prompter and theatrical historian.

Reverting to theatrical matters, a new music-hall was built in Fishamble-street in the winter by the subscribers of the Musical Society, who then held their meetings at the Bull's Head, and their first concert was held in it in October, 1741. Soon after the celebrated Handel visited Dublin, and his first Oratorio was held in this hall in the December following, Mrs. Cibber singing several of the principal songs. In February, 1742, Quin returned to London, Mrs. Cibber remaining behind, drawing crowded houses, as Polly in the "Beggar's Opera," and establishing herself as a favourite with her audiences. In this month the tragedy of "Gustavus Vasa, or the Deliverer of his Country" was got up by the Aungier-street company, and it was performed for several nights with success. Its popularity had increased, through its rejection by the Lord Chamberlain, when ready for representation at Drury-lane theatre. Henry Brooke, the author of "Gustavus Vasa" and father of Charlotte Brooke, whose "Reliques of Irish Poetry" are well known to Irish readers, was a native of this country. He held some paternal estate in the county Cavan, and was for some years barrack-master of Mullingar. He produced his "Gustavus Vasa" in 1738, and on account of its acting being prohibited at Drury-lane, in consequence of some patriotic passages, it was published by subscription, and brought in Mr. Brooke upwards of a thousand pounds. It was produced in Dublin subsequently, under the title of "The Patriot." Brooke's "Earl of Westmoreland," founded on the first Danish invasion, was acted in this city in 1741, and later again in 1753, under the different titles of "Betrayal of his Country" and "Injured Honour." His satirical opera, "Jack the Giant Killer," was performed in Dublin in 1748, but was prohibited by the Government after the first night; and, after some alterations, it was reproduced on the Dublin stage in 1754. Brooke's "Earl of Essex" was acted in Dublin in 1752 and at Drury-lane in 1761. In connection with this play it was stated that Sheridan, when acting at Drury-lane in 1761, his emoluments were to arise from a certain proportion of the profits of the house on those nights on which he performed. That he was allowed a right of reviving or getting up such plays as he imagined would turn out the most to his and the manager's joint advantages. Among these he is said to have fixed on, as a choice, Brooke's "Earl of Essex," which, being licensed by the Lord Chamberlain, was now brought out at Drury-lane, where it met with a good success. During the rebellion of 1745 Brooke published his "Farmer's Letter," written somewhat after the manner of Swift's "Draper's Letters." Brooke's dramatic writings, though not of the highest order, possess considerable merit, and, indeed, it may be truly said, "Throughout the whole of his writings there breathes a strong spirit of liberty." Brooke's early poetical effort, "Universal Beauty," gained the approbation of Pope; and, though his "Gustavus Vasa" brought him opposition in London, he had the Prince of Wales for his friend. Brooke, though he had every prospect of advancement before him in England, he gave up all,

and preferred returning and living in his native country. He is the author of two novels—"The Fool of Quality," much admired in its day, and "Juliet Grenville." Henry Brooke was born at Rantavan in 1706, and died at 27 Capel-street, Dublin, in November, 1783. We know not whether the numbers in Capel-street, within the last forty or fifty years, have undergone a change, but 27 was situated nearly opposite the site of the late Scots' Church, or the present bakery establishment of Mr. Boland. In this same house Dr. Sheridan (the Rev. Thomas Sheridan), one of the favourite companions of Swift, kept a school, and the house has still older memories, for it is stated to have been used as a mint by James II. when in Dublin. Charlotte Brooke, the accomplished daughter of Henry Brooke, died on the 29th of March, 1793, at Cottage, Longford, of a malignant fever. Some time before her death she re-published all her father's works, prefixing a memoir.

At the time of the production of "Gustavus Vasa," and other pieces mentioned, at Aungier-street, a strong rivalry was manifested by both theatres in Dublin, and no doubt this rivalry led to the public seeing first-rate performers. The great attraction of Quin and Cibber at Aungier-street led Duval to exert all his powers to turn the tide of public patronage towards Smock-alley; nor was he unsuccessful in his efforts. Once more Smock-alley was in the ascendant, and Giffard, Garrick, and Miss Woffington appeared on its boards. "Either of these latter names," writes Hitchcock, "would have commanded the attention of the town without any other aid, but such combined powers had never heretofore appeared on the Irish stage." On June 15, 1742, Miss Woffington, the fascinating "Peg," once more in her native city, appeared in her favourite character of Sir Harry Wildair, charming all beholders. Garrick appeared on the Friday following in "Richard the Third," drawing more playgoers than could gain admission. Despite of crush and excitement, those who were lucky to secure seats were loud in their applause and admiration of his performance. The expectations of the Dublin audience were great, but, from all that can be gleaned of the time, Garrick's performance appears to have thoroughly satisfied them. The second part of the great actor was Chamont in the "Orphan," which was repeated by him, Mrs. Furnival playing Monimia. His third part was *Lear*, Cordelia by Miss Woffington, and Edgar by Mr. Giffard. In his own farce of the "Lying Valet," Garrick played Sharp. At Aungier-street a few unsuccessful efforts were made to conquer favour, but the season closed there with Mrs. Cibber's *Andromache*, which was the last character performed in this country by that actress. At Smock-alley the playing continued until the 19th of August, Garrick, Miss Woffington, and Giffard being still the great attraction. During the time they appeared they had Clodio, Carlos and Angelina in the "Fop's Fortune," Richard, Henry, and Lady Anne; Pierre and Jaffier, Belvidere, Furnival, with Schoolboy by Garrick; Hamlet, by the same; Ophelia, Woffington. The last characters they acted were Captain Plume, and Sergeant Kite being personated by Walker, the original Macheath, who had just arrived in Dublin.

Garrick's success in Dublin was great, for he was the admired of all classes; but he owed no small share of his triumphs to the splendid acting of Miss Woffington; she indeed contributed largely to the theatrical entertainment which so charmed the Dublin public. It must have been an extraordinary spectacle to have witnessed the acting of Garrick and Woffington on the boards of old Smock-alley in 1742, the theatre crowded from pit to roof with all classes, rich and poor, and this during the hottest months of the hottest summer known for some years. Small wonder, indeed, that an epidemic carrying off numbers was the consequence, and not inaptly named from the event the "Garrick Fever."

* See ante.

THE CITY OF NEW YORK.*

(Continued from page 255).

To suit the tastes of this restless people, the rapidity of the electric spark is necessary. The richest restaurateur of New York, Delmonico, ten times a millionaire, has an establishment near Wall-street, to which all the business men of the neighbourhood repair about one o'clock, to take standing a hasty "lunch" and "drink"—that is to say, to eat a morsel and quench their thirst. He has not failed to introduce into it the precious telegraph of prices. There it is, in the vestibule, at the head of a large external staircase, crowned with a circular pediment resting on marble columns. This entrance is said to be in imitation of a little Greek or Roman temple, and leads to where the Vatel of New York gains every day 10,000 francs.

Passing the galvanic apparatus, which, as an intermediate step, is being consulted by several feverish operators,—let us enter the saloon of the restaurant. A printed notice at the entrance requests those who chew tobacco to be good enough to "respect the marbles." Nearly every one eats standing, the hat on the head, and it is with difficulty that some less robust people obtain seats closely squeezed by the side of a little table. Here upon the counter are spread out the dishes most tempting to a customer in haste—sandwiches in enormous piles, cold meats in large slices, lobster-salad ready made and highly spiced, oyster soup swimming with little biscuits, and a thousand varieties of pastry, rolled, browned, and creamed, all which the hungry visitors attack with one accord. It is then the turn of the alcoholic drinks, from the frothy champagne, which is drunk at every turn, to the ardent whiskey, from the innocent claret, the fine Bordeaux of France, or the ale and porter of England, and lager-beer of Germany, to the topaz-colored sherry made elsewhere than in the cellars of Xeres. In a basin of enormous dimensions is spread out a lake of aromatic wine. At one side, for the few who have made vows of temperance, there is a fountain of iced water. The attentive waiters or "bar tenders" pour the liquors into brimming glasses, or pass you the bottle with confidence, and occupy themselves in preparing for others those composite beverages so dear to all Americans. Mint peppered, or the flavour of oranges and citrons, are mingled with ice and various intoxicating liquors. It is the general rule to suck up these drinks with a reed. The drink swallowed, a cigar is taken in passing (though tobacco is chewed more than smoked), and business is again followed till 4 o'clock. No conversation, merriment, or laughter is indulged in; that would be considered pure waste of time.

Let us leave the bankers, merchants, and brokers hurrying back to their offices, and let us visit, still in the same quarter, the exchanges for cotton, grain, salt meats, petroleum and tobacco; where are bought and sold each day to the value of several million dollars of such merchandise; then let us resume the route up Broadway. In the latter, facing Wall-street, stands the Gothic Church of the Trinity, one of the handsomest and (as regards its foundation) most ancient in New York, with graceful turrets and a slender spire, about 100 metres in height, and from the summit of which is obtained an unrivalled panoramic view of the surrounding country, irrigated by the waters of the Hudson. Erected by the English soon after they had become masters of the city, this church was twice destroyed by fire, and twice rebuilt. It is surrounded by an ancient cemetery, where sleep beneath the turf in the shade of the venerable trees, more than one of the illustrious dead. Graven on the stone we read the name of Alexander Hamilton, killed by Aaron Burr in a duel; and, entering the nave, that of the brave Captain Lawrence, who, mortally

wounded on the deck of the vessel he commanded, spoke only these words to his men:—"Never give up the ship!" The young lads of New York know all his history by heart.

Close to Trinity Church, to the right and left, and in front, as if earthly things should cling to those that are divine, we come upon a new series of gigantic edifices—of banks of all kinds and all nationalities, offices of exchange and commission agents, railways, steamboats, express and deposit companies, and enterprises of every kind. Let us take particular notice of the "safe deposits," where for a moderate monthly rent, varying according to circumstances, authorized and incorporated companies will let you a compartment, a sort of steel safe or drawer, numbered, and enclosed within underground walls of granite. You deposit and lock in it yourself the valuables or precious objects that you would have assured against all chance of loss, robbery, or fire—bonds, plate, jewellery, diamonds, business or family papers. The company give you a key—a marvel of ingenuity impossible to reproduce without the model—and you come whenever you please to inspect your treasure. You carry it for this purpose into an enclosed box or office, where you cannot be seen; you detach alone your coupons, or take your notes. No receipt is given for your deposits, nor is anyone responsible, but an attentive guard watches night and day about and within the building; no burglar has yet attempted to invade that fortress, and every precaution is taken against fire, if ever it could attack these vaults of granite and steel. It is said that the idea of these safe deposit companies originated in England; they have existed in New York for some years. At present they are to be found in Broadway to the number of a dozen, and all distribute large dividends to their shareholders. The bankers of Paris, when spoken to about them, reply that they would be unsuitable to French ideas and manners; but, nevertheless, they would seem deserving of a trial.

A little further from Trinity Church is a vast edifice all of granite, recently erected, and of which the style, uniting strength and sobriety, does honour to the American school of architecture. It is here that the Post-office and Custom-house are now permanently located. One of the immense fronts faces a square planted with trees, where is also the City Hall, which it dwarfs into insignificance.* In the neighbourhood of this square, which has witnessed various catastrophes and more than one popular tumult, are to be seen the magnificent offices of the principal newspapers of New York. The sumptuous façades of some of these private edifices far outshine those of the public buildings. Here are the buildings of the *Herald*, the *Times*, the *Tribune*, and the *Staats-Zeitung*, this latter being German. Some of these journals issue more than 100,000 copies daily, each containing sometimes sixteen closely-printed pages of text and advertisements. The price is moderate, three or four cents per copy, the cent being equal to one of our sous. The *London Times* is distanced by the *Times* and the *Herald* of New York. The self-acting machine which prints this latter, and which alone does all the work, is the most rapid, powerful, and ingenious that can be devised.

The American press has the credit of being always awake, watchful, and on the alert. It has scattered everywhere, over both hemispheres, the battalion of its forlorn children, those irregulars called reporters. Their mission is to chronicle everything, and no news can escape them. Some of them are observers of first-class ability. No expense is spared in the conduct of these journals, and enormous profits are realized by them. They have sometimes been in advance, even of governments, in the knowledge of political news. It was the *Herald*, which, during the Abyssinian war, sent to England the telegram announcing

the taking of Magdala; it was one of its reporters, since then justly celebrated, Mr. Stanley, who discovered Livingstone, lost for so many years amid the great lakes of Central Africa. The *Herald* was founded by Mr. Bennett, a poor Scotch emigrant, who realized from it an immense fortune. He died some years ago and was succeeded by his son. The sum received annually for advertisements by the *Herald* amounted to ten millions of francs, that is to say thirty thousand francs, daily. Among the curiosities of this paper are the "personals" which appear every day at the head of the first column. Lovers, with a daily persistence that never tires, there declare their passion, and appoint their places of meeting. The *Herald*, strongly republican, has vigorously opposed the third re-election to which recently General Grant seemed to aspire, and was one of the first to demonstrate the danger of the "Cæsarism" with which the American republic was threatened. The campaign was successful, the General being obliged to declare publicly that, faithful to the precedent created by Washington, he would not present himself for election a third time.

If the *Herald* be the successful rival of the *London Times*, the *Tribune* has no rival in the United States for the good order, seriousness, and honesty with which it is conducted. The celebrated Horace Greeley, who united to the calling of editor that of a distinguished agriculturist, and who failed at the last presidential election to displace General Grant, was, up to the time of his death, the soul of the *Tribune*. He was one of the first to advocate the emancipation of the slaves, and declare against the South. It was he also who, four years ago, denounced publicly the shameless frauds of the municipality, and made at his own expense a copy of the falsified registries by means of which the culprits were convicted and condemned. The public entertained for this man—a little eccentric and antiquated in his habits—the most profound veneration. His witty sayings are even yet repeated with delight. He was known to be thoroughly honest, and unreservedly devoted to the public good; and was, indeed, the modern Franklin of New York.

II. THE HOTELS—THE SHOPS—THE THEATRES.

Let us continue our walk. Here are the hotels: "The Saint Nicholas," "The Metropolitan," and many others, vast caravanseries, open day and night. They are rising by degrees along Broadway with the City itself. Formerly the "Astor House" was much celebrated, near the City Hall-square. Many old Yankees and merchants from the interior remain habitually faithful to this house, but nevertheless its doors will soon be closed, as will also be some day those of the other hotels we have mentioned; for the City rises without ceasing, and commerce invades the district more and more. It is not now fashionable to live near one's place of business, even in an hotel, and fashion here, as elsewhere, issues decrees from which there is no appeal. Hence, if we advance in Broadway to a distance of five, six, and seven kilometres from the point of the Battery, we shall still encounter numerous large and well-frequented houses.

These hotels, with their magnificent façades and thousands of rooms, are renowned for their completeness. We find in them everywhere grandiose staircases; rich velvety carpets; baths on every floor—often even in all the chambers; luxurious dining-rooms; elevators for travellers, luggage, and servants; public and private reception rooms, and elegant boudoirs for ladies. A special apartment for newly-married couples, "the wedding room" is not forgotten. Hot and cold water is laid on, even to the smallest rooms; gaslight is gratuitous throughout; the vexatious tax for "bougies," familiar to European hotels, is unknown. Here are offices where railway, steam-boat, and theatre tickets can be purchased, letters written and posted, and telegraph messages sent. Here also are the shops or stalls of the barber,

* From the French of M. L. Simonin, in the *Revue des Deux Mondes*. Translated, with Notes, for the *IRISH BUILDER* by William Fegerty, F.R.L.B.A.

* The central offices of the principal Electric Telegraph Company are also in this neighbourhood, and form one of the most splendid piles of building ever erected for such a purpose.

the newsvendor, the tobacconist, the hosiery, the vendor of nick-nacks, the jeweller, the chemist and perfumer, the tailor and hatter—they are all in the hotel. As to the bar for liquors, it is sumptuous and well supplied; and at one side is a vast hall containing half a dozen billiard tables.

From five o'clock in the morning until midnight, feasting goes on almost without intermission—breakfast, lunch, dinner, tea, supper—all at hours following a prescribed order. You can make five meals per day; you can sit down five times to table without blushing, for there are plenty to set the example. From as long a bill of fare as that of any restaurant, you may choose as many dishes as you please; there is no limit imposed, and you do not pay one cent. the more. It is not that the cookery is good or service well appointed. You are served in the American style, all the dishes at once, and you have before you sauce flasks of every description to season them to your taste. The *chef* is French, but he has been obliged to renounce many of the excellent traditions of his art in changing his place. He is paid like a minister of state, this master of the lower regions, sometimes up to 2,000 francs a month.

To conform to the discipline of the house, it is essential to be hungry, in a certain fashion, only at certain hours. The innocent foreigner, who has come to lose himself in these deafening caravanseries, and for whom some houses, taking pity on his caprices, have attempted to adopt the European system, rebels and complains. The officials are not disturbed by his criticisms, they have no time to answer him, they do not seek to retain any one, as they have more custom than they wish for. On entrance you must leave your individuality at the door. You are then no more than a number to be taxed at so much per day, exclusive of wine and extras, which are costly. Apart from these, it is but four or five dollars (twenty or twenty-five francs) per day for the best accommodation, by paying which you can enjoy all the advantages of the establishment. You owe no more to any one, not even to the waiters, negroes and Irishmen, who consider themselves your equals, serve you as little and as badly as possible, but ask nothing. They hope to become, in a few years, themselves millionaires like the proprietor of the hotel. There are families who like this style of life, and instal themselves, without ceremony, in the hotels—husband, wife, and children. It is more convenient to live thus encamped than to have a dwelling to one's-self, and the ready-made luxury of these hotels is just the thing to please the parvenus. This class of customers is nearly as numerous as strangers or travellers, and are quickly recognized. In the evening the ladies come to dinner in ball costume, with flowers in their hair, light robes, and low dresses. All eat with haste, and swallow, both in summer and winter, full glasses of iced water or champagne; then promenaded in the long galleries, decked with mirrors, brilliantly illuminated; it is "Vanity Fair" in its crudest display. Men who do not care for show leave the company of the ladies and betake themselves to the atrium or immense entrance vestibule of the hotel, to chew tobacco in silence. Their feet are elevated and supported upon the arm-chairs or balustrades of the smoking room. They pass there whole hours by themselves, revolving in their brains the affairs of the day, or dreaming in advance over those of the morrow.

The great shops or "stores" (as they are here called) vie with the hotels in the sumptuousness of their façades, and the extent of their buildings. The famous draper or dry-goods merchant, Stewart (recently deceased), who from a poor Irish emigrant became a "merchant prince," had two stores in Broadway, one for wholesale trade in the lower portion of the city, the other for retail, between Ninth and Tenth streets. These two buildings occupy each an entire block. An army of assistants measure out and roll up,

from morning till evening, the silken stuffs and thousand fanciful articles of feminine attire. The net profits of the proprietor at each annual inventory of stock were counted by millions of dollars. They are said to have reached three millions, being fifteen millions of francs, on some of the last occasions.

The theatres, by the magnificence which distinguishes the greater part of them, keep pace with the shops and hotels. The "Academy of Music," where every winter the Italian opera is performed; the French theatre or "Lyceum," where our operettas are given; Booth's theatre, where Shakespeare is enthroned, under the direction of the brother of the assassin of Lincoln, who was himself the first tragedian of the United States; the Grand Opera, built by the financier Fisk, who found it agreeable to have this theatre alongside the offices of the railway of which he had taken the direction. All these theatres are vast, decorated with taste, well ventilated and lighted, and facile of ingress and egress. It is scarcely necessary to mention the "Bowery," dear to the people and renowned for light comedy; Niblo's, the "Olympic," Wallack's, and numerous others, where tragedy and comedy are played, or where minstrels or serenaders, disguised as negroes of Ethiopia, execute their characteristic dances, and sing their traditional songs, initiating the people of the North into the former picturesque life of the Southern slaves. Not content with this, the minstrels indulge in a number of transparent allusions to the public affairs and men of the day, as was done in the theatre of Athens in the time of Aristophanes. Recently, a scandalous dispute having arisen in the midst of Plymouth church at Brooklyn, in which the celebrated preacher, Beecher, minister of that congregation, was compromised in a most serious manner with one of the members, the minstrels made numerous mirthful allusions to it every evening. To surpass this a subordinate theatre went further, by impudently putting on the stage this disagreeable subject, even designating by their true names the principal personages of the sad transaction. On the stage liberty rapidly degenerates into licence, and one can see at this moment in New York, exhibited every evening at certain theatres, most indecent dances.

To speak the truth, America has no national theatre, nor even any indigenous artists,* apart from the minstrels above mentioned. All the other artists, above all those of the lyric theatres, come ordinarily from Europe. The pieces played are either written by American authors, in which case they display a mediocrity which disarms all criticism, or else they are borrowed from the English stage. Sheridan and Shakespeare are the standards of merit, and Miss Charlotte Cushman (since deceased) gave happily the cue to the tragedian Booth, who inherits the talent of his brother. Studios efforts are made to translate some of the most celebrated pieces of the contemporary French theatre. The translation is readily disguised under the name of "adaptation" or arrangement. Sometimes the plagiarism is sought to be concealed under a title of borrowed names and forms. In short, original productions are almost absolutely at fault. It is evident the mission of Americans is not yet to write pieces for the theatre; they should confine themselves to other work. To fertilise the soil, to open roads, canals, mines, to build factories, to throw cities into the midst of the desert, to abridge and lighten manual labour by mechanical inventions, would seem to be their principal rôle at present, and it is surely sufficient for them.

There are in New York many other places of amusement. The circus of the famous Barnum was all the rage recently. Within a covered space, as large as that of the Coli-

* It is only necessary to mention the names of Kellogg, Albani and Thalberg, to show that justice is not done here to the numerous accomplished lyric and dramatic artists America has recently produced.

seum of Rome, Barnum exhibited, in a triumphal procession, under the alluring title of the "March of the Nations," the courts of the whole world, not forgetting even the Papal court and those of Persia and China. Sultans and sultanas, kings and queens, emperors and empresses, chamberlains, cardinals, marshals, khans, beys, and mandarins, advanced solemnly on foot or on horseback, magnificently attired, under canopies, to the sound of appropriate music, and in distinct groups. The performer who represented Pius IX., crowned with the tiara and wearing the pontifical robes, was as grave as a real pope upon the *sedes gestatoria*, borne by three princes of the Church. Queen Victoria, the Khedive, and by a singular anachronism the Emperor Napoleon I., with his small hat and grey overcoat, attracted the most attention. Not content with this unparalleled display, Barnum exhibited dances of elephants and races of ostriches, and finished up his show by a sort of English fair (like Greenwich), including an army of supernumeraries, performing sports of all kinds, accompanied by a deafening noise. Thousands of spectators came twice a day to "the Roman circus," and the showman or beast tamer, as Barnum delights to be called, having expended large sums, realized proportionably enormous profits. When the curiosity of the public of New York was fully gratified he carried his exhibition into the provinces. This strange impresario, or rather clever charlatan, expends, it is said, every year up to two millions of francs on his announcements, and, although upwards of sixty years old, he has just been married (for the second time) to a young girl, announcing the fact with the sound of a trumpet, and not failing to take up his quarters in the wedding chamber of the Windsor Hotel.

In a society apparently so religious as that of America, it is the rule that all the theatres should be strictly closed on Sundays. Nevertheless they have now come to be opened by means of a subtle compromise, which presents a curious example of the peculiarities of the Anglo-Saxon character. It is necessary above all things to save appearances. A concert of sacred music is announced, and the airs of the opera bouffe are played; for instance, "La Fille de Madame Angot." The concerts in the Central Park could not otherwise be given, and the French artists adopt the same expedient on their bills when they wish to play on Sunday. It is the same also at "Tivoli" (a concert-hall), where all the performers are clowns, and where nothing is sung but comic songs.

(To be continued.)

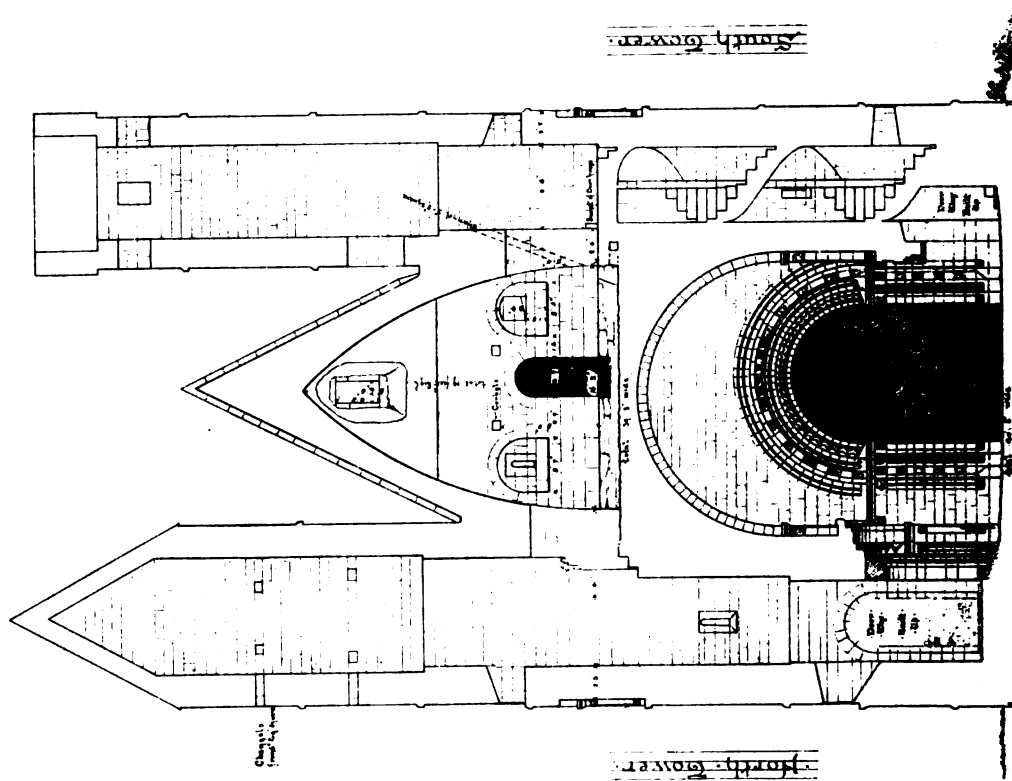
THE RAISING OF THE VANGUARD.

We extract the following pertinent article from the *Broad Arrow*. We, too, think the *Vanguard* could be raised if the Admiralty are inclined to set about the work properly. Have they given any consideration to Mr. Dillon's apparatus for raising sunken ships? We hear it has been quite successful in its working:—

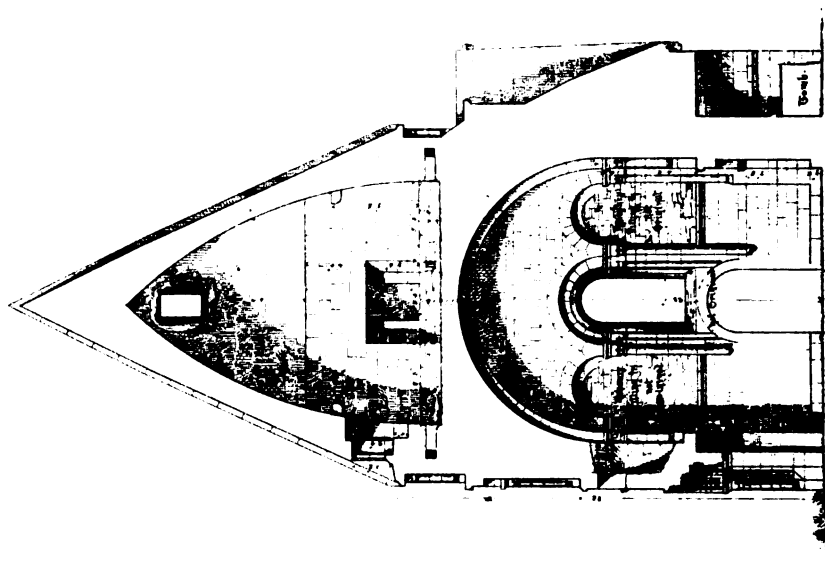
"We believe the Admiralty has been seriously misled regarding the state of the ship and the difficulties attending attempts at raising her. It was said at the court-martial that shipwright amateur divers had gone down and measured the size of the aperture in the bottom, and its locality. If this is the case, then the depth is not twenty fathoms, for the pressure at that depth is fifty-three pounds to the square inch, which would be more than a practised diver in an ordinary dress could withstand. The current was said to be four to five knots per hour; whereas we know that it never exceeds two and a-half knots at that place. Indeed one of the persons who offered to raise the *Vanguard*—viz., Mr. Coppen—had previously raised a vessel fully laden with copper ore from a place rather nearer the shore, however, in shallower water than where the *Vanguard* lies. As a matter of fact, we believe we are correct in saying that the most experienced divers cannot work in deeper water than fifteen fathoms if attired in such a dress as was worn by the

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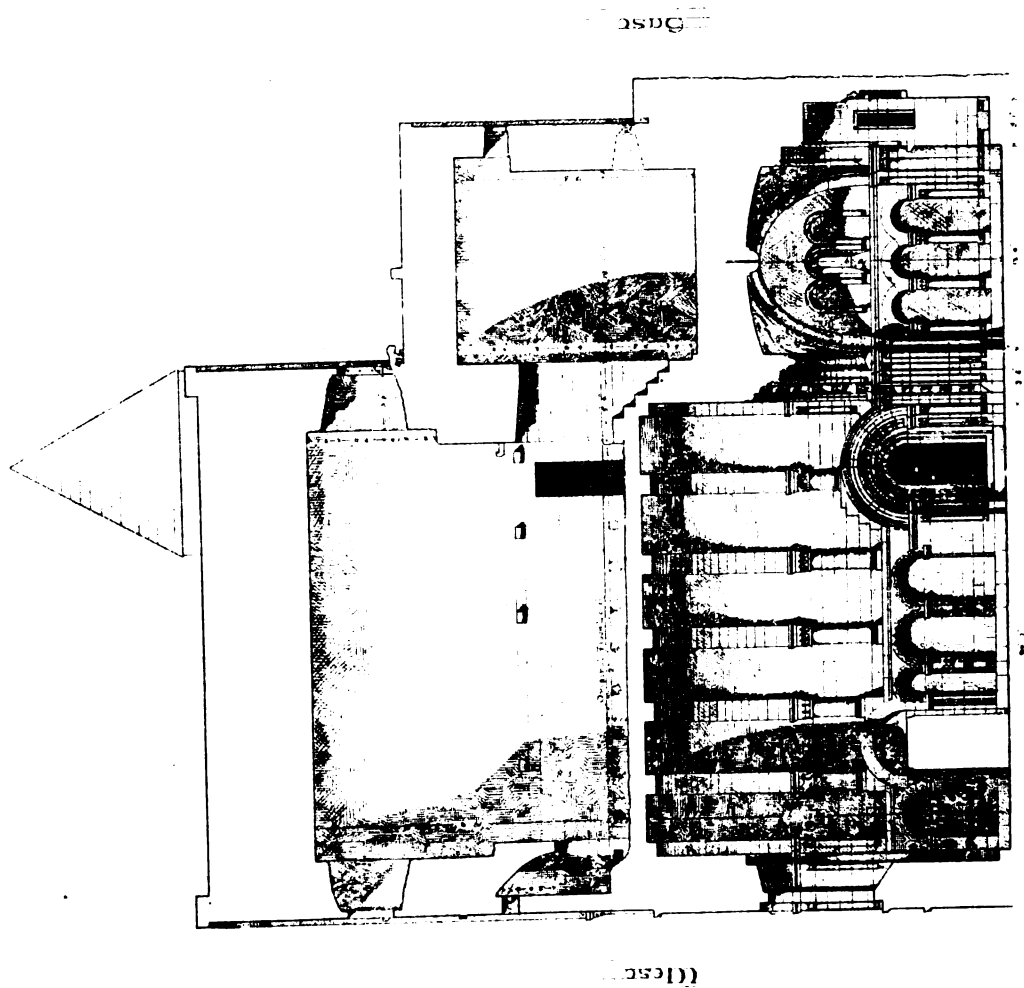
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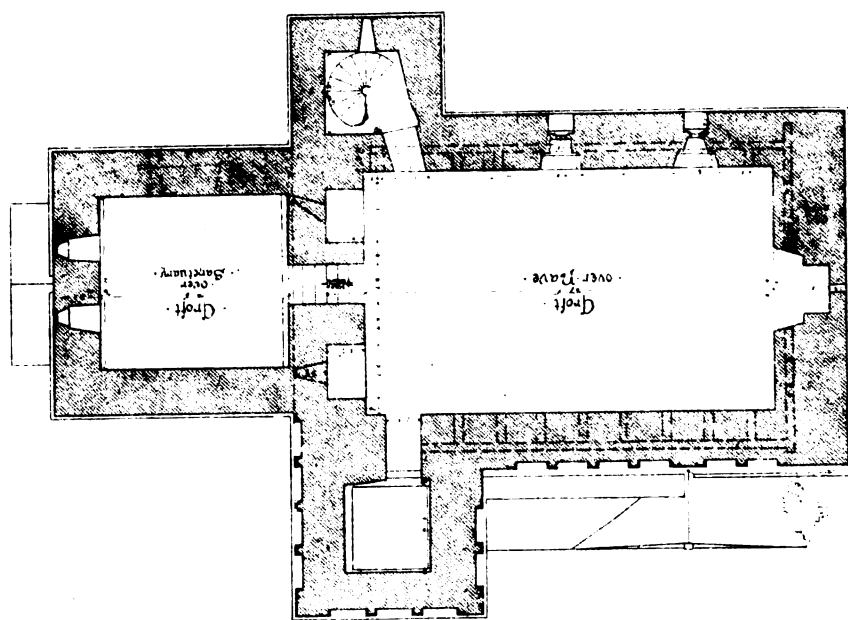


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• Longitudinal Section •

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shipwright divers who were said to have gone down to inspect the hole in the Vanguard's side.

The question will probably be asked, if a diver cannot work in twenty fathoms of water, how is the ship ever to be raised? To this we reply that a diving costume has been invented which quite gets over that part of the difficulty of working in deep water due to the pressure. This dress is made of several thicknesses of stout canvas stiffened with steel ribs, the weight being about the same as the total weight of the diver and the leads which are required in order to sink him when attired in the ordinary diving-dress. A pipe proceeding from this attire is carried up to above the water surface, in addition to the pipe supplying the air. Hence the body of the diver is in an atmosphere of the ordinary pressure, the remainder of the pressure at twenty fathoms—amounting to thirty-eight pounds per square inch—being borne by the dress. We cannot understand why the Admiralty has failed to take advantage of this invention by employing its patentee, a gentleman who has had, as we have already said, more experience in raising sunken ships than any other person.

But it appears the Admiralty has given up all hopes of raising the ship, and now wish to sell her. We are by no means satisfied with this decision. As the stewards of the nation's property, they are bound to use every endeavour towards that end. Not only would a valuable ship be restored to the fleet, but interesting and instructive information would be gathered regarding the cause of her loss. 'Dead men tell no tales,' it is true, and perhaps that is the reason why some officials are desirous of keeping the ship where she is. We fully believe that if the Vanguard were raised, facts would come to light of the most discreditable character respecting the state of her compartments when she was sent to sea. For our own part we are not satisfied with the alleged impossibility of raising the vessel. It is not true that she is sinking in the sand, for at that depth and under a pressure of fifty-three pounds per square inch, the bottom is as hard as concrete. It is true that some sand has drifted against one side of her, and the longer she remains, of course, the more this will collect. We fear the season is too far gone to render operations possible this year, but we wish any one who makes the effort every success, and we are by no means sure that success is not nearer than is generally imagined. The diving dress we have alluded to makes quite simple what was previously next to impossible. Perhaps we shall next summer see the Admiralty engaged in a transaction similar to that which is so very common at the dockyards—of selling a ship and buying back the copper for more than the ship was sold."

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

THERE is scarcely a district in Ireland in which some lingering legend, handed down from sire to son, does not still exist concerning that once mighty craftsman, the reputed builder of all our ancient towers and castles,—the Gobhan Saor. This historic personage has been deemed worthy of attention on the part of architects in our day, as well as of antiquaries and poets; and though much in connection with this hero of our early history is undoubtedly mythical, still there are many facts deducible to prove the entity of an original and particular Gobhan Saor, a clever artificer: but of course not one possessed of all the talents and traditions ascribed to the name. Much of the early history of all countries and their early heroes is enveloped in mist, and many incidents have had to pass down the stream of time through tradition before being recorded in any written account, and, as a consequence, they have become strangely altered in form in their passage. Our countryman Samuel Ferguson, in his excellent poem "Congal," published in 1872, introduces the historic Gobhan among his other heroes—

"When to that craggy steep
Came Goban with his mason train to build a treasure-keep
For mighty Finn. In living layers the jointed rampart rose
A spear's length thick; but when the wall should now well-
nigh enclose

The central summit, Borchu came, by night, and with his staff
Scattered the one half of the work; but left the other half
Entire, that like a bristling crest on warrior's helmet set,
Looks toward Orgallia and the west with front defiant yet."

In his "Notes" to his poem, Mr. Ferguson thus writes:—"The Irish Gobhan Saor seems in some aspects, but not in all, the analogue of the Northern Wayland Smith.

So far as the latter reflects the character of the Vulcan of the Pantheon, the likeness does not hold. No story of a love adventure resulting in lameness associates itself, to my knowledge, with Gobhan; nor is he specially a worker in metals. He appears as the great architect, builder, and joiner, whether the work be a dry-stone cairn, a bridge, a round tower, or a mediæval castle. It is only exceptionally, as in the Battle of Moy Tura, that we find him working in metals. The name itself—"The Master Workman"—seems to point to the origin of the myth. There are evidences of the existence, here as elsewhere in early times, of a peculiar Building Craft or Guild, whose Master, for the time being, would necessarily be a person of considerable note. Each work of importance would thus have its particular *Gobhan Saor*, or Master Builder; and here we probably have the origin of the wide-spread celebrity amongst the Irish peasantry of such a personage associated with the most distant works in time and locality."

The late Richard Rolt Brash, in his able work, "The Ecclesiastical Architecture of Ireland to the Close of the Twelfth Century," devotes his two final chapters to the Gobhan Saor, and the traditional legends belonging. These chapters are full of historical interest. The late Dr. Petrie, in his work on "The Round Towers and Ancient Architecture of Ireland," endeavours to show that the Gobhan Saor was a real personage, and lived in the seventh century. Mr. Brash, on the other hand, holds that the myth is far older, and certainly as old as the erection of stone structures in Ireland. The late Dr. O'Donovan, in one of his notes to "Annals of the Four Masters," wrote, "According to the pedigree of the Tuath de Dananns, Gobhnan, Gobha, or the Smith (whose brothers were Creidne, the Brazier; Diancecht, the Physician; Luchtain, the Carpenter; and Cairbre, the Poet), was the son of Tura Mac Tuireill, of the royal line of the Tuatha-de-Dananns." Mr. Brash hints that Goibhnen, the Saor, or chief artificer of the Tuatha-de-Dananns, may have been identical with that Gobhan over whose wife was erected a sepulchral mound at Brugh-na-Boinne, and whose fame as a builder has reached down to our own times.

In the Book of Ballymote there is a poem by Eochaidh O'Flinn, a bard who died in 984. In the translation of this poem by the late Dr. Connellan, we have in one of the verses the name of Gobhan introduced thus:—

"Goibhnen, the skilful refiner of precious metals.
"Creidne, the artificer, who obtained his knowledge by sorcery.
"Diancecht, healer of the most virulent diseases.
"The heroic one, Lughaidh, the son of Eithne."

This Gobhan (Goibhnen) is, in Mr. Brash's opinion, probably the original Gobhan Saor, and the root from which all subsequent legends sprung. There are many personages of the name, spelt in different ways, occurring in Irish annals, some saints and some monks. The name of Gobhan Saor is compounded of Gobha a Smith, and Saor free or noble. O'Reilly, in his Irish Dictionary, gives us the following meanings:—"Saor, a., free, noble; *Saoranach*, s.m., a freeman; *Saoreloch*, s., a mason"—literally a Free-mason. The same authority also gives us—"Saor, s.m., a carpenter, wright, joiner, artist." Students and literary craftsmen, who would like to obtain fuller information respecting the Gobhan Saor, will find it in the works of Petrie, O'Donovan, Brash, and in other sources indicated by these authors.

So much has been said and written of late on the subject of Church "Restoration," perhaps it will not be amiss to go back to a period nearly fifty years ago for an opinion, when the Gothic Revival was in its infancy, at least in this country, and the rage for church "restoration" had not begun to develop itself in the form we have all witnessed of late years. Thomas Bell, in his treatise or essay on the Gothic Architecture of Ireland, written about 1823, has some

pertinent remarks on "restoration." Bell's essay met the approbation of Francis Johnston, the architect, who might be called the father in some sense of the Gothic revival in Ireland. Before Bell's book was issued from the press in 1823, Johnston had died, to the great regret of the author and others, some months previous. Writing in reference to Cashel Cathedral, Bell says:—"More than once in the course of this essay I have condemned the practice of endeavouring to restore a ruin, long dilapidated, to its pristine state. The objection, however, does by no means apply to those occasional renovations by which only any of our buildings have come down to us. As the constant succession of prayers and praise, and the wholesome doctrines from time to time delivered in these churches, keep alive our devotion, and renew in our minds a sense of dependence on our Creator—or as the necessary recruits of food and sustenance from day to day to our exhausted frames prolong our existence; so these occasional repairs and renovations have preserved to us memorials of the piety of our ancestors, which otherwise would now be little else than so many heaps of rubbish. Never should they from false economy have been suffered to become ruins, so long as a sense of religion is deemed necessary to the happiness of man and the well-being of society. As antiquarians [antiquaries] we may admire ruins much, but, as Christians, it is certainly our duty to prevent our churches from becoming such. Devotion and veneration for what is ancient, both combine for their preservation."

The Cathedral of Cashel suffered at the hands of different assailants—time, war, and even the hands of *Christian* churchmen. Archbishop Price, with an inherent love, we suppose, for vandalism from a certain point of view, and a holy horror of restoration, accomplished nearly the final ruin of the building by unroofing it in 1746. Were the good bishop (?) alive to-day he might be induced to turn up the white of his eyes to heaven and ask forgiveness for his sins. In 1746, however, Gothic destruction instead of Gothic revival was in the ascendant, and Archbishop Price set but a small price on gems of Gothic design, apart from the value of the building material his acts of vandalism placed in his possession.

Is the Celtic language to die out, and will no more than very feeble attempts be made now and again to keep it alive? Each Census return shows that, as a speaking tongue, it is declining more and more. Had we the spirit of the Welch, the Irish language would be taught in every National school, and our Catholic fellow-countrymen could have it taught in the Christian Brothers' Schools, if they made an effort. The little that is taught in some of our colleges or universities has, or will have, little or no effect in leading to the retention of the language by the people as a body. The Welch have several newspapers, some printed in the principality and others outside it, in which news and reports in Welch and English are given. The Germans, French, and other foreign nationalities in London have their own newspapers, printed in their own tongue. Even the Jews in London have their newspapers, and, though the majority of them can speak English, they can also read and talk their own Hebrew tongue. The epitaphs on the tombstones and monuments in their own cemeteries are in Hebrew, and sometimes in both languages. Here are we, taking us at large, speaking the language of another nation, and not knowing how to speak our own mother tongue. Indeed, there are a large body of our people ashamed of their native tongue, and are prone to deride a native from the banks of the Shannon or more westward who evidences a knowledge of Celtic by an unmistakeable honest *brogue*. Learn French and German by all means, it will be most useful; learn English too, and speak it and write it properly, if there be a proper way of writing it or pronouncing it, for English will be indispensable to you. Learn

Irish, if you are Irish born; learn to write it and speak it, nor be ashamed of it, and you will find it will be an accomplishment and an acquirement that will not be only pleasing to you and useful to you, as an ordinary individual, but valuable to you, if you are a student of history.

We are not clannish or prejudiced, but we are national apart from party politics, and, therefore, we would preserve and perpetuate the Celtic tongue, as we would preserve from ruin our national monuments.

H.

THE BRITISH ASSOCIATION AT GLASGOW.

THE fortieth meeting of the British Association for the Advancement of Science was opened in Glasgow on the 6th inst., under the presidency of Professor Thomas Andrews, LL.D., F.R.S., of Belfast. The meeting was held in the Summer Palace of the Botanic Gardens, and was a crowded one. Amongst those present were the Duke of Argyll, Lord O'Hagan, Dr. Cameron, M.P., Mr. Anderson, M.P., Mr. Holms, M.P., Mr. Orr Ewing, M.P., Sir George Campbell, M.P., Captain Bedford Pim, M.P., and nearly the whole body of scientific men. There were, however, two gaps by the absence of the two most popular expositors of Science—Professor Tyndall, who is on the Continent, and Dr. Huxley, who is in America.

Sir John Hawkshaw, the retiring president, introduced Dr. Andrews. Sir John had just returned from America, and declared that the Americans were treading on our heels, and would soon take the lead if we were supine. After thanking the officers of the Association for their aid during the year, Sir John left the chair amid much cheering, and was replaced amid more by Dr. Andrews, who straightway began the reading of his address.

After referring to splendid scientific memories connected with Glasgow, Dr. Andrews proceeded to review the progress made during recent years in the various departments of scientific research, touching among other things upon Physical Geography, the *Challenger* Expedition, Meteorology, and Telegraphy. We give a summary of the concluding portions of the president's address on the progress of science and the endowment of research.

PROGRESS OF SCIENCE.

Dr. Andrews, in dealing with the progress of electrical science, expressed the pleasure he felt at the failure of a recent attempt to deprive Herschel of his great discovery. He gave an interesting account of recent experiments and discoveries with regard to the properties of light and heat; and comprehensively sketched the advances that have been made in chemical science. He then touched upon the progress of science generally. The decline of science in England, he said, formed the theme, fifty years ago, of an elaborate essay by Babbage; but the brilliant discoveries of Faraday soon wiped off the reproach. I will not venture to say that the alarm which has lately arisen, here and elsewhere, on the same subject will prove to be equally groundless. The duration of every great outburst of human activity, whether in art, in literature, or in science, has always been short, and experimental science has made gigantic advances during the last three centuries. The evidence of any great failure is not, however, very manifest,—at least, in the physical sciences. The journal of Poggenдорff, which has long been a faithful record of the progress of physical research throughout the world, shows no signs of flagging; and the Jubelband by which Germany celebrated the fiftieth year of Poggenдорff's invaluable services was at the same time an ovation to a scientific veteran, who has perhaps done more than any man living to encourage the highest forms of research, and a proof that in northern Europe the physical sciences continue to be ably and actively cultivated. If in chemistry the case is some-

what weaker, the explanation, at least in this country, is chiefly to be found in the demand on the part of the public for professional aid from many of our ablest chemists. But whatever view be taken of the actual condition of scientific research, there can be no doubt that it is both the duty and the interest of the country to encourage a pursuit so ennobling in itself, and fraught with such important consequences to the well-being of the community. Nor is there any question in which this Association, whose special aim is the advancement of science, can take a deeper interest. The public mind has also been awakened to its importance, and is prepared to aid in carrying out any proposal which offers a reasonable prospect of advantage. In its recent phase the question of scientific research has been mixed up with contemplated changes in the great universities of England, and particularly in the university of Oxford. The national interests involved on all sides are immense, and a false step once taken may be irretrievable. It is with diffidence that I now refer to the subject, even having given to it the most anxious and careful consideration.

ENDOWMENT OF RESEARCH.

After urging the expansion of the course of study at our universities, Dr. Andrews treated of the proposition for the endowment of scientific research. The endowment of a body of scientific men devoted exclusively to original research, without the duty of teaching or other occupation, has of late been strongly advocated in this country; and M. Fremy has given the weight of his high authority to a somewhat similar proposal for the encouragement of research in France. I will not attempt to discuss the subject as a national question, the more so as after having given the proposal the most careful consideration in my power, and turned it round on every side, I have failed to discover how it could be worked so as to secure the end in view. But whatever may be said in favour of the endowment of pure research as a national question, the universities ought surely never to be asked to give their aid to a measure which would separate the higher intellects of the country from the flower of its youth. It is only through the influence of original minds that any great or enduring impression can be produced on the hopeful student. Without original power, and the habit of exercising it, you may have an able instructor, but you cannot have a great teacher. No man can be expected to train others in habits of observation and thought he has never acquired himself. In every age of the world the great schools of learning have, as in Athens of old, gathered around great and original minds, and never more conspicuously than in the modern school of chemistry, which reflected the genius of Liebig, Wöhler, Bunsen, and Hofmann. These schools have been nurseries of original research as well as models of scientific teaching; and students attracted to them from all countries become enthusiastically devoted to science, while they learned its methods from example even more than from precept. Will anyone have the courage to assert that organic chemistry, with its many applications to the uses of mankind, would have made in a few short years the marvellous strides it has done if Science, now as in mediæval times, had pursued her work in strict seclusion,

"Semota ab nostris rebus, selunctaque longe,
Ipsa suis pollens opibus, nil indiga nostri?"

But while the universities ought not to apply their resources in support of a measure which would render their teaching ineffective, and would at the same time dry up the springs of intellectual growth, they ought to admit freely to university positions men of high repute from other universities, and even without academic qualifications. An honorary degree does not necessarily imply a university education; but, if it have any meaning at all, it implies that he who has obtained it is at least on a level with the ordinary graduate, and should be eligible to university positions of the highest trust. Dr. Andrews

urged that it was by education in its highest sense, based on a broad scientific foundation, and leading to the application of science to practical purposes—in itself one of the noblest pursuits of the human mind,—that alone Great Britain can maintain the commanding position she has hitherto occupied. He referred as a warning to the work done by the University of Berlin, a creation of the present century, in developing, by high intellectual training, the forces necessary for the regeneration of Germany. Looking to the future, he concluded by saying that, in the struggle to maintain their high position in science and its applications, the countrymen of Newton and Watt will have no ground for alarm so long as they hold fast to their old traditions, and remember that the greatest nations have fallen when they relaxed in those habits of intelligence and steady industry upon which all permanent success depends.

The Duke of Argyll moved a vote of thanks to Dr. Andrews for his address, but did not think there was any danger of the golden age of science dying out. That was true of literature, especially of poetic literature. "Where," he exclaimed, "was the galaxy of genius which burst upon the country at the beginning of the century—Burns, Scott, Wordsworth, Coleridge, Southey, and Campbell?" Poetic and philosophical literature is declining; but science was not declining. The grave has only just closed over the remains of Murchison, Sedgwick, Lyell, and Phillips; and geology, once ridiculed, was now the most popular and certain of the sciences. In physics, Faraday; we still have Jewell in biology; and we have Darwin and Wallace—a statement that was received with a burst of applause. The duke went on to say that even those who did not agree with Darwin—and he confessed that he did not—must admit that Mr. Darwin stood A 1 among naturalists. In comparative anatomy we had Owen, Huxley, and Mivart. Thanking Dr. Andrews for his wise and weighty words about the endowment of research, the noble duke expressed his concurrence with him, but he reminded the meeting that Mr. Lowe, the hardest-fisted Chancellor of the Exchequer we ever had, sent out the *Challenger*.

Sir William Thomson seconded it, and it was passed with acclamation.

SECOND DAY.

On Thursday, the first working day, public interest was manifested in the Biological and Geological sections. The first business of the day, however, was a presidential address in the Physical and Mathematical department by Sir William Thomson. The distinguished physicist having recently paid a visit to the United States, spoke at some length of the practical obligations of science in that country. He was warm in his praise of all that had been done in regard to hydrography, and could hardly find words to express his extreme admiration for the electric telephone—the invention of an Americanised Scot—which he heard sounding four messages simultaneously on the Morse code. In regard to the patent laws, he thought we were far behind America, and, indeed, went so far as to say that if Europe did not amend its patent laws, America would speedily become the nursery of useful inventions for the world. Plunging next into physical science, Sir William proceeded to discuss the theory of the earth's formation, and contended that it was quite erroneous to suppose that the surface was a mere shell. In connection with this part of his subject he read a lecture to geologists, his remarks in relation to whom were afterwards replied to in another place by the Duke of Argyll.

The subject of the Duke's paper was "The Physical Structure of the Highlands in connection with their Geological History." Twenty years ago, he remarked, if he had been asked to name the probable period of the formation of the western islands, he would have given a time of great geological antiquity. Two years ago, however, Mr. Judd discovered that in the neighbourhood

of Morven the volcanic lava covered a metamorphic gneiss, and from that and other indications it was thought the formation was due to a very much later date than that of Miscere. He warmly combated the ice age theory of the glaciers, and suggested that the very way in which the contour of the Highlands had been effected by ice was by the downward movement of glaciers and the action of icebergs.

In the Anthropological Section, the ladies were so numerous as almost to form the majority. The president, Mr. Russell Wallace, who is almost as much identified with the evolution theory as Mr. Darwin himself, delivered the inaugural address, which largely related to this subject. To the surprise of not a few of his hearers he upheld the theory that man and the ape were descended from a common ancestor. His admiration for Darwin, he wished it to be understood, was as great as ever, but he was of opinion that the eminent naturalist was too apt to jump to general conclusions; otherwise the special point of the address was the consideration of some curious relations of organisms to their environment, which seemed worthy of more systematic study than had hitherto been given them.

The Anatomical Sub-Section was presided over by Dr. M'Kendrick, Edinburgh, and papers were read by Professor Turner and others.

The Geographical Section suffered not only from the fact that the business was less interesting than in some recent years, but also because of its being relegated to a hall some distance from the university buildings. The result was that the audience was most markedly scanty, and the discussion wonderfully curtailed. Captain Evans, R.N., C.B., presided, and, in his opening address, dwelt particularly on the results of the *Challenger* Expedition and the light it had thrown on ocean currents, and on the variation of temperature at various depths.

Sir George Campbell, who occupied the presidential chair in the Economic Science Section, was not favoured with a very large audience, but he spoke at length on the use that might be made of statistics, and the necessity there was of basing legislature on a scientific plan.

In the evening there were conversazioni in the Royal Exchange and the Corporation Galleries.

THIRD DAY.

A feature of this day's programme was Lieutenant Cameron's account of his African travels. After the reading of the paper, a variety of suggestions were made as to the best means of furthering African civilisation. Lieutenant Cameron's own opinion was that a commercial company might be granted a special charter to work the wealth of the country, on condition that they put an end to slavery; but the general feeling of the meeting seemed to be with the president (Captain Evans), when he remarked that they would require to have a more intimate acquaintance with the country before they could come to a decision on such a matter.

In the Economic Section the principal papers were devoted to the depreciation of silver. Mr. Matheson, a Glasgow merchant, declared strongly against the proposal to abolish silver as a standard, and maintained that matters would right themselves by the laws of supply and demand. Mr. Stephen Mason and Dr. Neilson Hancock, who read papers on the same subject, took up very different positions, the former advocating a gold and the latter a bi-metallic standard. When that matter had been at last disposed of, the slave question was introduced by the Rev. R. Busacott, and Lieutenant Cameron arrived in time to repeat some of the theories he had advanced in the Geographical Section.

Questions relating to sewage were discussed at great length in the Chemical Section. In the Anthropological Rooms there was an interesting address by Professor Newton, the president of the department devoted to Zoology and Botany. In the Mechanical Sec-

tion Sir William Thomson contributed some interesting facts as to diurnal tides in the Mediterranean. The Geological Section, deserted by the Duke of Argyll, received but little patronage from the general public.

FOURTH DAY.

This (Saturday) was a sort of holiday, several attractive excursions drawing away a large number of the members. The geologists had a short meeting, in which the only paper read that presented any feature of general interest was one "On the Underground Waters of the New Red Dust Permian Formations." Attention was called to the fact that there are 10,000 square miles of such formations in England and Wales, with an annual absorption of water to the extent of a billion and a-half gallons; and the hope was expressed that this enormous store of water, hitherto only partially tapped by pumping, would hereafter be made more generally available for domestic supply in the midland counties. The Mathematical Section had a meagre attendance, and its programme was almost entirely occupied with papers of a technical character. The Economic Section attracted a considerable attendance, and had a long sitting. A paper read here by Mr. Botley discussed the subject of agricultural statistics, and urged that, at a time when money was so cheap as at present, the most advantageous mode of employing it was to increase and improve the cultivation of the soil. In the course of the discussion which followed, complaint was made that the Government statistics were issued too late, and were not sufficiently reliable to form a basis of calculation for the mercantile community. Mr. Jolly, her Majesty's Inspector of Schools, read a paper "On Physical Education," in which he deprecated our national neglect of this branch of training for the young, and urged that it should be taken up by Government as a matter to be vigorously promoted.

FIFTH DAY.

At a meeting of the general committee on this day the proceedings were enlivened by a discussion as to where the meeting the year after next should take place. Deputations from Dublin and Leeds were rival claimants. After a lively and amusing controversy it was finally decided to give the honour to the Irish capital. The next year's meeting will be held in Plymouth.

In the Economic Section the education question was discussed. Dr. Jack introduced the subject. He was strongly in favour of compulsion, and urged that it was particularly necessary in Ireland. His views were supported by certain school inspectors who were present, and also by several other speakers. Mr. M. Barry caused some amusement by proposing that parents should get small payments made to them in the way of compensation for what they were required to pay in school fees. Some of the audience inquired where the money for this purpose was to come from, and Mr. Barry replied that he would take it from the endowments. This policy did not meet with general approval, and a subsequent speaker pointed out that the endowments would be far from sufficient for the purpose.

In the Physiological Department the president, Dr. M'Kendrick, of Edinburgh, delivered an elaborate address on the value of anatomy and physiology, and in the course of his remarks maintained that research on these subjects occupied a high place in securing life, liberty, and happiness. Subsequently, in criticising a paper on "The Nervous System of the Medusa," Dr. M'Kendrick pointed out that one of the absurd results of the Vivisection Bill would be that a gentleman who was making some interesting experiments on the jelly-fish would in future require not only to get a licence for himself, but also to get a licence for the Moray Firth, which was the place in the meaning of the act where he conducted his experiments.

In the Mathematical Section, Sir William

Thomson made a valuable contribution on the subject of "Deep Sea Soundings." Notwithstanding a rude assault by Professor Tait on Dr. Tyndall's use of the word "force," Sir William, in the course of his address, adopted the term in the same sense as Dr. Tyndall, adding, amid general cheers, "If I may be allowed to use that term."

SIXTH DAY.

Several papers of scientific and general interest were read in the different sections throughout the day. A number of the geologists were afield, and not a few members of other departments were visiting the factories and manufactures of the district. Professor Stokes's account of the phenomenon of metallic reflection, and Professor Herschel's report on luminous meteors, Dr. Joule's report on the determination of the dynamical equivalent of heat, and Dr. Janssen's essay on solar photography, with reference to the history of the solar surface, were amongst the leading papers in physics; whilst Mr. Crookes gave some further remarks on the influence of residual gas in the movement of the radiometer, the philosophical toy which has been so much spoken of as the measure of the force of sunshine. Dr. Gladstone gave expression to further interesting investigations as to the decomposition and recombination of various chemical elements by means of the simple copper-zinc couple.

Dr. J. E. Taylor, of Ipswich, who had recently visited the phosphate mines of New Packard, in the south of France, produced his observations in a certainly startling form. These deposits are in oolitic limestone, and were described by the author as being in old or, as we may almost term them, fossil caverns. The phosphatic deposits were regarded by him as stalagmitic, and with these and red cave earth the "pockets" were completely filled. All the fossils there were early tertiary, and he described other similar deposits at Bach and St. Antoine as being perfect graveyards of tertiary mammalia.

The Anthropological Section, the department over which Mr. Wallace presided, was early crowded by people desirous to hear a paper by Professor Barrett on "Some Phenomena associated with Abnormal Conditions of Mind." The paper first dealt with the phenomena of mesmerism, the author giving an account of some experiments he had made in this direction, confirmatory of Mr. Braid's experiments on hypnotism. These phenomena were at one time not accepted by physiologists; but quotations were given from the recent edition of Dr. Carpenter's and Dr. Maudsley's works on mind, showing that they are not now questioned. Professor Barrett then detailed some further experiments he had made on the so-called "thought reading," the influence of one mind upon and without the intervention of any impressions derived from the senses. This point is as yet not admitted by physiologists, and one of the objects of the present paper was to urge the importance of a further investigation of this remarkable phenomenon. The second portion of the paper dealt with the so-called spiritualistic phenomena. The reading of this paper led to a lively discussion, or rather battle of opinions, in which Mr. Wallace, Dr. Carpenter, Colonel Lane Fox, Lord Rayleigh, and Miss Lydia Baker took part.

In the Mathematical Section some exceedingly important though heavy papers were read. Dr. Kerr explained a discovery which the president declared was the most interesting recently made. He had proved the rotation of the plane of polarisation of light reflected from a magnetic pole. He said the result of certain experiments he had made on the reflection of light from the bare surface of an electro-magnetic pole showed that there was a sensible rotation of the plane of polarisation.

In the Astronomical Lecture-room an interesting paper was read by Mr. Edward Grubb, the maker of the great telescope for the Austrian government, which the association is going to see in Dublin two years hence.

SEVENTH DAY.

On Wednesday the work of the various sections was resumed and concluded.

In the Chemical Science Section Mr. Hope read a paper on "The Purification of the Clyde." He remarked that admirable as Sir John Hawkshaw's scheme for dealing with the sewage of Glasgow might be from certain points of view—as, for instance, to a contractor in want of a ten years' job—he had unfortunately forgotten to finish it. Sir John was a great engineer, but he had acquired his great position as a railway engineer, and he had treated the problem of how to dispose of the Glasgow sewage, as a railway engineer—he had shunted it.

In the Mechanical Science Section Sir William Thomson read a paper on "Naval Signalling," and exhibited an apparatus of his own invention, which is simply a method of expressing the dash of the Morse system by a grave sound and the dot by an acute sound. Mr. Henry Wigham (Dublin) described experiments he had made for the Commissioners of Irish Lights. They had found in sound signalling that when they adhered to one note the experiments were, perhaps, more satisfactory than when they attempted to use more than one. This was at very long distances, however, and he thought Sir William Thomson's system would answer admirably for signalling between ships at comparatively short distances. He wished to know if in certain states of atmosphere there might not be a danger that one of the notes would not carry so far as the other, and thus lead to confusion? Sir W. Thomson said that it had already been proved by experience that sounds of different pitch, when not very unequal in pitch, carried almost equally.

CONCLUDING MEETING.

The concluding general meeting was held in the afternoon in the Garden Palace, Professor Andrews, president, in the chair. Votes of thanks were passed to the president, to the university authorities for the use of the college buildings for the meetings, to the executive committee for the great exertions and excellent arrangements they had made, and to the Lord Provost for representing the Corporation of Glasgow. It was stated by several of the speakers that the meetings of the association had never been so successful as those just concluded. The money collected had only been exceeded on three previous occasions, and was far above the average. It was stated, as an instance of the interest taken on the Continent in the proceedings, that the president had just received from the *Revue Scientifique* a proof of his inaugural address in French.

THE SCIENCE OF SEWER CONSTRUCTION.

THE first principle of sanitary work is *motion*. Any plan which entails stagnation as a part of its scheme must have the cause for that stagnation very clearly expressed, and a sound reason given for it, or the scheme is bad in design, and not calculated to effect the object for which it is proposed. This is a canon law with reference to the first great purpose of the sanitary officer. From the moment of excretion until it is utilised, motion of the excreta is the first sanitary law. If the excreta of carnivorous animals be kept moving, those combinations which produce epidemic disease are not forthcoming. For this purpose sewers are required in crowded localities. They are the necessary evils which follow upon the aggregation of individuals into crowded communities, though they are quite out of place in the village and the isolated mansion. Any sewer so constituted as to allow stagnation of any of its contents in any part of its course is wrongly made. If arrangements be introduced which necessarily produce stagnation in the air, if

only for a few feet of house-drain, a manufactory or vineyard is allowed to exist in which contagious particles may vegetate, and may be the starting point of a fresh epidemic; any trap on a sewer which is not accompanied by a corresponding ventilator may become a trap to catch men. Any sewer so constructed as to allow of deposit of solid matter, or which allows sewage to stagnate in any part of its course, is in a similar condition. Sewers must contain a current of sewage constantly passing down, with a corresponding current of air always passing one way or the other, if they are to be kept free from the power of manufacturing mischief. Ventilation must be free and absolute, ingress being allowed as well as egress, in a way which cannot be counteracted. For every house in connection with a public sewer there should be at least two free openings provided in the house-drain, an inlet as well as an outlet. If this arrangement be carried out, and the opening contrived so as to effect the object in view, and not for the purpose of defeating it, the natural forces will more effectually ventilate the sewers than any artificial aids. The diffusion of gases, the tension of vapour, the difference of temperature, in the sewer as compared with the outer air, the constant movement of external air, together with the movement of sewage in the sewer, will suffice to produce a free ventilation at all times. If this be done, no contagium particle will have a chance of reproduction in the contents of sewers, and no sewer gas will be discharged which will convey elements of mischief.

Deposit must not be allowed to take place; sewers must flush clean. The engineer who constructs sewers so that a deposit is probable in the invert of the arch has failed to effect the object for which he was engaged, and has erected an elongated cesspool. A sewer must flush clean under all circumstances. If sewage be always moving in the sewer there will not be time for deposit, there will not be time for those changes to take place upon which the production of contagia depend, so that motion prevents evil. Sewage must continue in motion and pass on to its destination. There is another point worthy of mention which is too often forgotten—fresh sewage does not smell. If a sewer stink, it is defective in its workmanship somewhere. It is not sanitary science which is at fault, but engineering work. Sewers which give out unsavoury odours ought not to be accepted. They are defective either in their ventilation or in their levels; they are either wrongly designed or badly executed; and the engineer should be called upon to rectify the mistake.

Sewage cannot be retained in a sewer or anywhere else for more than twenty-four hours without producing a chance of evil; long before that time has elapsed it ought to be on its way to be utilised. The moment utilisation of sewage has properly commenced, from that moment the evils which might result from sewage recede into the far distance, and it becomes ineffective as a focus of infection. At present, nineteenth-twentieths of the sewage produced by the thirty-two millions of Great Britain is cast into the sea, or allowed to decompose after it has set up an immense amount of disease. Some of it becomes food for fishes, but the major portion is lost for ever by its reduction to its original elements. . . .

Experience has taught us that in dealing with sewage there are two other canon laws which are simple and absolute in their character, and which cannot be departed from without danger. One has reference to the communication between the house and the main sewer. No matter how careful the architect or the sanitary engineer may have been in his plans, the drainage portion of the work is carried out by a class of workmen who habitually slur over their work, and the common laws of hydraulics and pneumatics are studiously ignored. The natural result is occasional or even frequent stoppage. To obviate this danger, no sewer should have

any direct communication between it and the interior of the house. Such communication should always be by indirect channels only.

The other canon law is also as absolute. It is, that no water-pipe conveying potable water for use into any house should ever come into direct contact with a sewer or house-drain in any part of its course, especially at the orifice of discharge. The reckless way in which plumbers and house-fitters disobey these laws is producing danger to individuals in all ranks of society. Sewer-air from imperfectly-constructed sewers is laid on to our bed-rooms, dressing-rooms, kitchen departments, and lavatories, as regularly as if it were a necessary of life, whilst the water-pipe is, in a thousand instances, so placed as to render it perfectly impossible to be used without the contingency of air finding its way to the water from the impurest of impure sources. People reputed to possess common sense do not see the danger of such proceedings, because every one using water liable to be so contaminated is not affected on all occasions and at all times. They argue that the precaution of keeping water-pipes away from the neighbourhood of sewers is unnecessary, because a fatal result does not immediately follow. They might as well argue that a battle-field is not dangerous, because the hero of a hundred fights died a natural death in his own bed.

NEW CHURCH,
HOLY CROSS COLLEGE,
CLONLIFFE.

THIS church, which has been erected from designs by Mr. J. J. McCarthy, R.H.A., was solemnly dedicated yesterday by his Eminence Cardinal Cullen. The church consists of a nave 123 ft. in clear by 60 ft. across the aisles. The height is 47 ft. to the ceiling. The Roman basilica style has been adopted for the interior. The nave terminates in an apsidal sanctuary. The nave and aisles are separated by seven bays of semicircular arches resting on red marble pillars 15 ft. high, each pillar being of one single block. The Ionic capitals and bases are of white marble—the subplinths of Galway black marble. The arches are furnished with suitable architraves, and over these an Ionic entablature is carried completely round the nave, sanctuary, and apse. The clerestory walls rise above this entablature, and contain five windows on each side. Between each window is a large space, filled with a gorgeous painting, the work of Gagliandi. The subjects of the paintings are taken from Scripture and ecclesiastical history, and all have reference to the incidents connected with the Cross. The aisle side walls are divided into bays, corresponding with those in the nave, by pilasters and semicircular arches, every arch being filled with a lunette window. The apse is marked off from the nave by a semicircular arch, finished with moulded architraves and resting on broad twin pilasters. The side chapels are also marked off from the aisles by moulded arches and pilasters. Confessionals are inserted in the walls of the aisles, and the church and the college are connected by a cloister on the north side of the former. The vestibule is entered from the college grounds by three open archways, and at the right hand end, as one enters, is placed the noble and richly wrought marble statue of Pius IX. Over the vestibule in the church is an organ of great power and sweetness, built by White, of York-street. In the space between the divisions of the organ are emblazoned the Cardinal's archiepiscopal arms, beautifully carved in high relief, upon a ground 7 ft. square. This fine piece of work is by Mr. J. R. Boyle, jun., of Upper Gloucester-street, and is very creditable. The encaustic tiling was supplied by Messrs. Sibthorpe and Son and Messrs. Monsell, Mitchell and Co.

* From "Address in Public Medicine," by Dr. Alfred Carpenter. Published in *Medical Press*.

SANITARY AND OTHER NOTES.

At the Southern Divisional Police Court, before Mr. Barton, the following persons were summoned for disobedience to the magistrate's order for the abatement of nuisances:—Joseph Lemass, fined 10s. for the premises 9 Usher's-quay; Susan Curtin, fined 5s. for the premises 27 Bridgefoot-street; James Kenny, fined 10s. for the premises Henry's-cottages, James's-street; John King, fined 10s. for the premises 16 and 17 Bonham-street; Thomas Whitty, fined 5s. for the premises 19 Rainsford-street. The houses 2 and 5 Plunkett-street were directed to be closed, and orders were made in twenty-seven other cases.

An old man named Bermingham, Bath-street, Ringsend, was charged with having fraudulently attached a hose to a water-fountain in Upper Sheriff-street, the property of the Corporation, and carried away a large quantity of water. Mr. McSheehy, solicitor to the Corporation, appeared to prosecute. Mr. Crofton, supervisor of the waterworks, deposed that he saw the defendant near the fountain in question. He had a hose attached to the mouth of the fountain, the other end of the hose being attached to a large water barrel, and there was a continuous flow of water into the barrel for a considerable time. Defendant said he had never before been prevented from doing this, and others did the same. He was satisfied to pay—he had paid to the Grand Canal Company. He had drawn the water for the captain of a ship lying at the North-wall. He had been in the habit of doing this for a considerable time. In reply to his worship Mr. Crofton said the Corporation had a man for the express purpose. Mr. O'Donnell said the defendant must not poach on the preserves of the Corporation. He should pay £1 fine and costs. Bermingham said he had not five pence, but he was willing to pay a rent to the Corporation. Mr. Crofton said if an application to that effect was made to the Corporation it might be entertained.

At a meeting of the Corporation, Mr. Denahy and Mr. Norwood respectively moved the following resolutions:—"That inasmuch as the sewage of the Rathmines and Pembroke Townships, which flows into the Dodder river, and is carried up the Liffey by the incoming tide, causes great injury to the health of the citizens of Dublin." "That Committee No. 1 be authorized to allocate the sum of £300, provided the citizens and inhabitants of Talbot-street and its vicinity contribute a similar amount, for the purpose of purchasing so much of the site of the house No. 25 Marlborough-street, at the corner of that street and Talbot-street, as will be necessary to widen the latter street, in order to facilitate the traffic through this important business thoroughfare, and that the said committee do forthwith inquire and report on this matter, that No. 1 Committee be directed to inquire and report, without delay, whether the site of No. 1 Parliament-street can be purchased for the purpose of widening that important thoroughfare, and facilitating the traffic from and to Dame-street, Cork-hill, and Parliament-street."

At a meeting of the Dublin Sanitary Association, the report of the inspection sub-committee appointed at the last meeting of the committee to inspect 35 Power's-court, off Lower Mount-street, was brought up and read. It stated that under certain dwelling rooms in this house was a horrible receptacle of filth. The yard adjoining is confined and dirty—a horrible smell penetrates the house. From a top back room three cases of fever have been recently admitted to Cork-street Hospital. "The house—which is occupied by six families—is in the same state as it was in three years ago." Attention was directed to the Registrar-General's weekly return. The death-rate in Dublin for the past week was 24·5 per 1,000, against 19 in London and 17 in Edinburgh.

There are some nice model lodging-houses in this city, as the following case will prove:—Thomas McKenna, a cattle drover, was charged with having stolen a one pound note and a handkerchief from a farmer named Rooney, while the latter was asleep on Constitution-hill. The prosecutor's statement was that at about 11 o'clock he had been with the prisoner, and had given him drink in a public-house; that he had the note at that time in one pocket and some silver in another. When he awoke the note was gone, and a red handkerchief also. He "was not much tipsy." He gave information to the police and the prisoner was arrested. The constable who arrested him said he found on his person 5s. 7½d. in silver and copper, and a white handkerchief. The prisoner said it was all false. He could bring witnesses to prove that he was in his lodging-house, 105 Church-street, at eight o'clock in the evening; that he went to bed at eleven, and did not leave the house till five in the morning, at which hour he left for the cattle market, where he was arrested. Mr. O'Donnell—What

witness can you get to prove it? Prisoner—I can get the eleven men who slept in the room with me, Mr. O'Donnell—Eleven in one room? Prisoner—Yes, your Worship. There are six beds in each room, and two persons in each bed. The house is Mrs. Kirwan's, 105 Church-street. A policeman was sent for the purpose of bringing Mrs. Kirwan. On his return he said there was no such person at 105 Church-street. The prisoner said there might be a mistake in the number, and Mr. O'Donnell then allowed him to go, in custody of the police constable, to procure the attendance of Mrs. Kirwan. Mrs. Kirwan came back with them, and on being sworn said that the prisoner, who had lodged with her back and forward for two years, had got his supper about half-past nine o'clock, and had left the kitchen and gone to bed at half-past eleven. Mr. O'Donnell discharged the prisoner.

UNHEALTHY AREAS IN DUBLIN.—It is stated that the Local Government Board have sent forward a recommendation to the Board of Public Works for a loan of £1,000 to the Corporation, for the purpose of defraying the preliminary expenses which may be incurred in carrying into effect the provisions of the "Artisans' Dwellings Act." We hope this mite will be properly spent. Any new officers required?

SANITARY WANTS AT WARRENPOINT.—At a meeting of the Guardians of the Newry Union, the clerk stated that a rate of 1s. in the pound for the year would be necessary for sanitary purposes in the Warrenpoint district. He calculated that 2d. in the pound and this 1s. would be necessary to pay the instalment of the additional loan required for the water works. The chairman said Mr. Bower, C.E., had informed him that he would complete the works satisfactorily, paying the expenses out of his own pocket. Mr. Mayne said the rate for Warrenpoint for sanitary and poor law purposes would be 2d. less this year than last.

DUNDALK.—At a meeting of the Town Board, a letter was read from the County Surveyor, Mr. John Neville, C.E., referring to the accumulation of dirt on the streets. Dr. Browne said that the shopkeepers swept the dirt that accumulated in their shops during the day into the streets, whereas they should sweep it into their own yards. The solicitor of the board said it was quite illegal for them to do so. If the sweepings created a nuisance the parties could be made amenable under the Sanitary Act. The attention of the Sanitary Inspector was directed to the matter. The system pursued of covering the broken stones with mud was discussed. Dr. Browne said that, in a sanitary point of view, it was illegal for the contractors to put mud and manure over the stones. Pure sand should be spread, which would cement them together.

THE PROFIT UPON SANITATION.—The Medical Officer of Health for Southwark, Dr. Bateson, has availed himself of the opportunity he possesses to compare within the last year the mortality of his district within and without the Peabody Buildings. These buildings are a model of structural perfection, cleanliness, and order, and are inhabited as a rule by a temperate and provident class of artisans; and it was to be expected that their health would contrast favourably with that of the squalid, dirty, and intemperate with whom the locality abounds. This anticipation has been abundantly verified by Dr. Bateson's figures, for he finds that the death-rate of the large population within the Peabody Buildings is only 12 per 1,000, while that of the outside parish is 24·5—a gain of 100 per cent. in favour of cleanliness and ventilation.—*Med Press.*

HOME AND FOREIGN NOTES.

The foundation stone of a new church on Aranmore Island, off County Donegal, was laid on the 6th inst. by the Marchioness of Hamilton.

On Sunday the Most Rev. Dr. Lynch laid the foundation stone of a new Catholic church at Clane, County Kildare, in the presence of a large congregation. The new building is to be erected in rear of the present edifice, which has not been found able to afford sufficient accommodation.

RE THE CITY BASINS.—The question of the sale of some of the City Basins, and the carrying out of some work in connection, came up for discussion at the Corporation meeting on Monday. It led to a "scene," and, before the subject was "trashed out," there was "no house." Notwithstanding, a resolution was carried, which might be termed a "miscarriage."

MUNICIPAL SPIRIT.—The Bradford Town Council have accepted tenders for the construction of a new reservoir for the supply of water, amounting to nearly £200,000. They also resolved to expend £11,000 in laying out a new park.

BRAY TOWNSHIP.—Mr. John Corbett, C.E., has been elected surveyor in room of Mr. Henry Brett, C.E., resigned.

TRADE UNIONS AND FRIENDLY SOCIETIES.—By the recent act on trade unions (39 and 40 Vic., c. 22) trade unions, whether registered or not, which insure or pay money on the death of a child under ten years of age, are brought within the provisions of section 28 of the Friendly Societies Act, 1875.

THE PEEL STATUE.—The casting of the statue of Sir R. Peel from the late Mr. Matthew Noble's model, was accomplished a few days since at Messrs. Cox and Son's Bronze foundry, Thames Ditton. The pedestal being ready, it is hoped that the statue will be placed in position at Westminster before the close of the year.

THE SHIPBUILDERS' STRIKE AT BELFAST.—The strike of the iron shipbuilders of Belfast continues. The relief committee has received aid from several English societies. The various branches of the trade have, it is stated, given authority to the reconciliation committee to agree to a settlement.

FOUND DROWNED.—At Bangor the death by drowning of Mr. Whittaker, an artist, well known as an exhibitor of Welsh landscapes at the Royal Academy, formed the subject of a coroner's inquiry on Saturday evening. On Friday afternoon two ladies found his body in a stream above Bettwyscudd, in which village he had spent some months.

A second case was that of Mr. Angus Turner, who for upwards of 30 years filled the office of town clerk of Glasgow, and had retired on a pension of £2,300 a year, was on Saturday found drowned in a little creek at Wymys Bay. It is supposed that he was seized with congestion while bathing.

EMPLOYERS AND WORKMEN.—*The Cost of a Strike.*—Mr. Frith, one of the secretaries of the South Yorkshire Miners' Association, has made a calculation that during the recent strike of colliers in South Yorkshire the employers lost £500,000, and the workmen £250,000. This, added to the loss sustained by the railway companies, makes a total loss of £872,000, during fourteen weeks.

KINGSTOWN.—Mr. Donegan, of Killiney, appeared at the police court, in answer to a summons issued by the Dalkey Commissioners for, as alleged, erecting a building within 30 ft. of the centre of a public roadway. Mr. Clay, jun., appeared for the complainants, and Mr. Reilly for the defendant. The sections of the act were quoted, and, after a lengthened hearing, the magistrate recorded a fine of 20s., with 10s. a week so long as the building was maintained. Mr. Crook, of Dalkey, was summoned for a similar offence. He was directed to pull down the building within a month.

STREET OBSTRUCTION IN LIVERPOOL.—Messrs. Dear Brothers, grocers, Islington, were summoned before the magistrates on a charge of having allowed three chests of tea to remain on the footway in front of their shop from one o'clock in the day until seven in the evening. It was contended for defendants that no offence against the law had been committed, the place where the chests were placed being part of the area, and defendants' own property. The police-officer who made the charge stated, in cross-examination, that there was a mark on the pavement showing where there had been a kerbstone and railings; and the chests were within this mark. The Bench, however, thought defendants should either discontinue putting their goods outside, or take some means of asserting their right to the ground by fencing it off, and on the understanding that something of the sort would be done, the summons was dismissed.

THE NEW THAMES TUNNEL.—The new subway between North and South Woolwich, which was commenced on the 24th ult., is estimated to cost £75,000, and will consist of an iron tube in segments, 9 ft. high, with a breadth sufficient for four adults to walk abreast. It will be lined with white glazed tiles, and be lighted with gas, and will possess an efficient system of ventilation. The entrance at the north side of the Thames will adjoin the North Woolwich station of the Great Eastern Railway, and on the south side will adjoin the Woolwich Pier. The charge to casual passengers will be one penny each way; but to workmen going to and fro, books will be issued at a considerably reduced rate. The new tunnel is being constructed chiefly for the accommodation of the workmen engaged at the St. Katharine's Dock Extension Works, where 3,000 men will be employed for three or four years to come; the Beckton Gas Works, where 2,000 stokers are at work; Henley's Telegraph Works, Silver's India-rubber Works, Foster's Wine Stores, &c., numbering altogether some 8,000 men, who at present have little or no house or food accommodation within easy access of their work.

CORRESPONDENCE.

"HOLYWOOD WATERWORKS."

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—I observe a typographical error in your note relative to the Hollywood water-works, now about to be constructed, from plans designed and prepared by me. You state the estimated cost of the work is £1,058; this amount should read £10,580, making a difference of £9,522. I may add to your observations that the cost of these works is to be paid off in fifty years by an annual payment of 7d. in the pound on taxation area—that is, 3½d. the landlord's share and 3½d. the tenant's;—and to have a supply of pure water such as these works will yield, must be a great boon to the inhabitants of this important and rising town, at such a moderate rate. Take, for example,—a house valued at £10 a-year will have the supply of water at a cost to the tenant of less than 3s. a-year, or less than ½d. per week during the fifty years, and at the end of the fifty years free, or at mere cost of maintenance. By making this correction in your next issue, I shall feel obliged, as this error is calculated to mislead those who do not understand the character of the proposed works, or the estimated cost of same.—Yours,

WM. TENNENT HENRY.

Deneight House, 8th Sept.

[The figures given in our note were taken from the columns of a morning journal—a source not always to be relied upon. Could not our valued correspondent and subscriber have supplied us directly with the facts?—Ed. I. B.]

THE "FLUES" AT CORMAC'S CHAPEL.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—In the leading article published in your last issue, reviewing the official account of the repairs recently carried out by the Board of Works at Cashel, you refer to the flues which surround the croft, as a "means of heating the chamber." Archaeologists have copied one another, from time to time, in describing this as a fact, but without attempting, as far as I am aware, to show how the system would work,—how hot air or smoke could be induced to descend into two horizontal flues, which are without up-cast shafts, necessary to create a draught; or what amount of heat the apartment might derive through a couple of feet of solid masonry. But, if what I believe is really the case—namely, that the fire-place itself is not part of the original structure, but an alteration made at some later period,—then some other reason must be found to account for their construction, for of course the flues must be original; while it can plainly be seen that the lintel is an insertion, for it cuts irregularly through the ashlar work which lines the walls of the lower storey of the croft. I have been led to doubt the antiquity of the fire-place, from the rough way the back is formed, and the manner in which the flue is turned out horizontally 2½ ft. above the level of the lintel,—so very unlike the careful and finished way in which King Cormac's masons did their work.

A suggestion has been made—I do not know by whom, but one that should commend itself more readily to the practical mind—that these "flues" mark the positions where bond timbers once were—now decayed away, placed there to prevent the pressure of the stone roof thrusting out the freshly-built and unbuttressed walls, already sufficiently strained by the barrel vault of the nave. Viollet le Duc, under "Chainage," in his "Dictionnaire Raisonné," says, that in works of restoration which he has had occasion to execute in edifices of the eleventh and twelfth centuries, he has found a great number of these "chainages en bois," or bond timbers, very well preserved, so that there can be no doubt of their employment; and he then proceeds to give several illustrations

of their use, which might change places with similar views of Cormac's Chapel.

The original floor level was where the ashlar work commences, about a foot above the present floor. In this space a number of holes may be seen on both sides, some built up, some open, that appear to indicate the position of timbers that might have acted both as joists and as ties to unite the plate from side to side. In order to render this subject clearer than words alone can do, I send you a section of the Croft taken from my "Monograph of Cormac's Chapel."

I would add, that the flues, so far as I can see, have no opening into either of the towers. There is a channel through one of the walls of the South Tower, in a sloping direction, towards the vault of the nave—very suggestive of the track of a bell-rope—but this channel has no connection whatever with the horizontal flues.

Trusting to be forgiven for having trespassed so far on your valuable space,

Yours, &c.,

ARTHUR HILL, B.E., M.R.I.A.

[The question—again re-opened by Mr. Hill—as to the "flues," or whatever they might have been, at Cormac's Chapel, is worthy of fuller attention. We express no opinion of our own upon the matter, as we have not had the benefit of a personal inspection. Mr. Deane's belief as to their being used as a "means of heating the chamber," somewhat on the principle of the Roman hypocaust, is only a repetition of opinions previously ventilated. Dr. Petrie considers "them to have been flues also for warming the apartment by passing heated air through them," but the solid masonry between them and the chamber goes to prove that the heat conveyed could be very trifling. A writer in the *Gentleman's Magazine* of some years since, as referred to in Mr. Brash's work, quotes the opinions of Mr. Gordon Hills, that they were not intended as flues, but had once been occupied by beams used for binding purposes, and which had decayed. The late Mr. Brash thus expresses himself: "It is, however, unlikely that the old Celtic masons would have inserted so perishable a material in the walls of an edifice built with such evident forethought for duration. Surely, when they constructed their very roofs of stone, they would not put timber in their walls. It is quite evident that not a cube foot of that material was used in the entire edifice, with the exception of the doors. Again, if bond timbers had been used, why connect them with both sides of a large fire-place? and why end them in the towers? Bond timbers, to be of any use, should be placed in the centre of the wall, and not near one of its faces. A practical eye will at once see that a bond piece could serve no useful purpose whatsoever in such a position, particularly where the walls are over 4 ft. in thickness. I think it more probable that the flues in question were formed for the purpose of conveying currents of air under the huge fires that once filled the ample hearth—a contrivance still used by the peasantry in various parts of the country. The position of the flues on a level with the hearth favours this appropriation."

We quote the above opinions so that our readers, or those specially interested in the question, may judge of their value in connection with Mr. Hill's description and illustration. Archaeologists, as a class, it must be allowed, are prone to follow one another. The reasoning of Mr. Brash is strong, but there is also a point in Mr. Hill's account worthy of consideration.

Speaking of the chamber above the nave, Mr. Brash also wrote: "At the west end is a large recess for a fire-place, with a flue in the thickness of the gable; and at each side, nearly on a level with the hearth, is a rectangular flue which runs horizontally through the gable and along the flank wall, and opening into the towers; they are nearly on a level with the present floors."

Mr. Hill says: "That the flues, so far as I can see, have no opening into either of the towers," and that a channel through one of the walls of the south tower, in a sloping direction towards the vault of the nave, is suggestive of the track of a bell-rope, but has no connection whatever with the horizontal flues.

Mere antiquaries and archæologists are liable to mistakes, but architects, who are archæologists as well, are certainly more qualified to arrive at conclusions from a personal examination of a building. There is no rule, it is said, without an exception, and we suppose that architects, as well as "doctors, differ."—Ed. I. B.]

INSTITUTION OF CIVIL ENGINEERS (LONDON).

THE following is a list of the premiums awarded, and for which we could not find room in our last issue:—

A Telford Medal, and a Telford Premium, to Walter Raleigh Browne, Assoc. Inst. C.E., for his Paper on "The Construction of Railway Waggon, with special reference to Economy in Dead Weight."

A Telford Medal, and a Telford Premium, to William Cawthorne Unwin, B.Sc., Assoc. Inst. C.E., for his "Investigation of the Motion of Light Carriers in Pneumatic Tubes, when the Air is in continuous or permanent Motion."

A Telford Medal, and a Telford Premium, to Gilbert Richard Redgrave, Assoc. Inst. C.E., for his Paper on "Sewage Interception Systems, or Dry Sewage Processes."

A Telford Medal, and a Telford Premium, to William Shelford, M. Inst. C.E., for his Paper on "The Treatment of Sewage by Precipitation."

A Watt Medal, and a Telford Premium, to Gabriel James Morrison, M. Inst. C.E., for his Paper on "The Ventilation and Working of Railway Tunnels."

A Telford Premium to Charles Bontemps, for his Paper "Experiments on the Movement of Air in Pneumatic Tubes."

A Telford Premium to Richard Spelman Culley, M. Inst. C.E., and Robert Sabine, Assoc. Inst. C.E., for their Paper on "The Pneumatic Transmission of Telegrams."

A Telford Premium to John George Gamble, B.A., Assoc. Inst. C.E., for his Paper on "The Brighton Intersecting and Outfall Sewers."

A Telford Premium to Wilfrid Airy, B.A., M. Inst. C.E., for his Paper on "The Probable Errors of Levelling, with Rules for the Treatment of Accumulated Errors."

A Telford Premium to Sidengham Duer, B.Sc., Assoc. Inst. C.E., for his Paper on "The Hydraulic Canal Lift at Anderton, on the River Weaver."

A Telford Premium to George James Symons, Secretary to the Meteorological Society, for his Paper on "The Floods in England and Wales during 1875, and on Water Economy."

A Telford Premium to Charles Greaves, M. Inst. C.E., for his Paper "On Evaporation and on Percolation."

A Telford Premium to William Sugg, Assoc. Inst. C.E., for his Paper "On Estimating the Illuminating Power of Coal Gas."

A Telford Premium to James Nelson Shoolbred, B.A., M. Inst. C.E., for his Paper "On the Changes in the tidal portion of the River Mersey, and in its Estuary."

The Manby Premium to David Alan Stevenson, B.Sc., for his Paper on "The Dhu Heartarch Lighthouse."

The council have likewise awarded the following prizes to students of the institution:—

The Miller Scholarship to the Hon. Richard Clere Parsons, B.A., Stud. Inst. C.E., for his Paper on "The History and Theoretical Laws of

Centrifugal Pumps as supported by Experiment, and their Application to their Design."

A Miller Prize to Arthur Ernest Baldwin, Stud. Inst. C.E., for his Paper "On Tunnelling in the London Clay."

A Miller Prize to George Barclay Bruce, Jun., Stud. Inst. C.E., for his Paper on "The Rio Tinto Mines Tunnel."

A Miller Prize to Richard John Gifford Read, Stud. Inst. C.E., for his Paper "On Metallic Veins, and on Works in connection with Tin Mining, and on the Dressing of Tin Ores."

A Miller Prize to Joseph John Tylor, Stud. Inst. C.E., for his Paper on "The Sinking of a Coal Pit in the Rhondda Valley, with particulars of the means employed and of the cost of the work."

A Miller Prize to Joseph Tysoe, Stud. Inst. C.E., for his "Description of a Grain Warehouse and Malting, and of the Apparatus used for removing and distributing the Grain."

A Miller Prize to William James Chalk, Stud. Inst. C.E., for his Paper "On some Methods of Screwing Piles, adopted in the Construction of the Withernsea Pier."

A Miller Prize to Arthur Spence Moss, Stud. Inst. C.E., for his Paper on "Underpinning, with recent Examples."

A Miller Prize to Arthur Cameron Hartzig, Stud. Inst. C.E., for his Paper on "Concrete in Marine Works."

DUBLIN SANITARY ASSOCIATION.

THE Executive Committee of this Association met yesterday at 15 Nassau-street, Lord James Butler in the chair. The Inspection Sub-Committee brought up a report upon the state of the River Bradoge, at the North Circular-road. The report was adopted, and copies ordered to be forwarded to the North Dublin Union, the Secretary of the Female Orphanage, North Circular-road, and to the Press for publication. The report stated that the portion of the River Bradoge which lies between the Cabra-road and Grangegorman-avenue is an open sewer, and emits an offensive smell, of which the inhabitants of the locality complain. About where it crosses under Cabra-road it receives the drainage of a terrace of houses on the Cabra-road, as well as of the Female Orphanage, the sewage from which falls into it after flowing for 200 or 300 yards through another drain. It then passes through fields in which cattle are kept, and, crossing under the North Circular-road, reappears at the corner of Grangegorman-avenue. Thence it runs about 120 yards parallel with Grangegorman-avenue, and not more than 10 yards distant from it. Here it is another sewer, receiving the refuse of the houses situated on its left bank. Occasionally in winter it is flooded so high that it is on a level with the floors of the houses. Here the smell is very disagreeable, and an oozy slime is deposited along its margin. The river, previous to its approaching the Cabra-road, is comparatively clean, but the drainage, especially that from the orphanage, is a most objectionable adjunct.

MEMORIAL TO THE "FOUR MASTERS."

THE memorial cross intended to perpetuate the names and fame of the "Four Masters," whose "Annals of Ireland" are so well known and so highly prized, is just completed. The site selected is at the angle of ornamental ground at intersection of Eccles-street and Berkely-street, and in front of the Mater Misericordiae Hospital. A sketch of the history of the "Four Masters" appears in the columns of our contemporary, the Nation, from the pen of a learned cleric who signs himself "Inis-Mac-Nessan," and is worthy of perusal. The cross is composed of Dungannon sandstone; it is 9 ft. 3 in. in height, standing on a base of same material 8 ft. high, resting on a stepped platform. The height of the entire will be about 15 ft. The cross is modelled after the ancient but unornamented cross of Kilree, near Kells, County Kilkenny, and of the same proportions. The interlaced designs on the front panels are copied from the large cross of

Monasteraboice. The crosses of Tuam and Kilclispeen supply designs for panels on sides and back. The bosses within the circle are copied from the Shrine of St. Mainchin. On three sides of the base are inscriptions in incised letters—Irish, Latin, and English. We print the two former.

Onoio do Mhícheál O'Cléirí,
Fhearrera O'Mhaelchoiníne
Do Choincioirice O'Cléiríne
ocur do Choincioirice O'Duibseannaín
na ceitne renaidí Foglamca oiríodhí,
le p'ceolomac co raetnac
Annala na h-Eneogh
ocur bían tocbaí in chof ía.

QUATUOR. PRECLARIS. MAGISTRIS.

EX. FRANCISCALLI ORDINE.

MICHAELI O'CLERY.

FEARFEASO. O'MAELCHOINAIKE.

CUCOGRI. O'DUIGENAN.

QUI. MAGNIS. LABORIBUS. EXTANTLIS.

ESTUANTE. IN. CATHOLICAM. FIDEM.

HOSTIUM. ODIO. AC. FURORIS.

VETERES. HIBERNIE. ANNALES.

AB. INTERITU. VINDICABUNT.

TANTI. IN. PATRIAM. BENEFICII.

NE. MEMORIAM. DELERET. DIES.

CLERUS. POPULUSQUE.

ÆRE. CONLATO.

COMMUNI. CONSENSU.

DEDICAVIT.

ANNO. R.S. MDCCCXXVI.

The work was entrusted to Mr. James Cahill, of Great Brunswick-street, by whom it has been creditably executed.

"CITY SWAMPS."

A MORNING contemporary, a few days back, furnishes some sad pictures of social and unsanitary life in certain well-known quarters of the city. The inspection of these "unhealthy" districts was made pursuant to an order of the Municipal Council, the sub-committee appointed being—Alderman O'Rorke, J.P.; Alderman Fry, J.P.; Mr. Meagher, Mr. Tickell, J.P.; and Mr. Gray, accompanied by Mr. Parke Neville, City Engineer; Dr. Mapother, Medical Officer of Health; and Mr. James Boyle, Secretary of the Public Health Committee.

TO CORRESPONDENTS.

THE LIFFY NUISANCE.—The river still flows on and smells, and there is matter enough in it for another commission and a thousand-and-one municipal reports.

"CHURCH RESTORATION."—The structure in question was built within the last fifty years. It is one of those *pylons* Gothic edifices whose windows and doors are certainly "pointed," but there is no other point in the building worth noticing. The best way to "restore" it would be to remove it altogether. By doing this, the site it occupies would be restored to somewhat nigh its original condition, and made an available site for a building worthy of the name.

AN ARCHITECT'S ASSISTANT.—We are at present unable to say. W. W.—If your enquiry be a *bona fide* one, we would reply—that most likely you would be permitted to work in the workshops in question, on the condition that you article yourself for a certain time. Not knowing your age, special qualifications, and other matters, we cannot speak more definitely. We do not think your time or labour should be valueless, even from the first.

W. H. (London).—The papers and drawings to hand. Will write shortly.

POSTAL IRREGULARITIES.—We are continually annoyed by the delay and miscarriage of packets and correspondence connected with this journal. Our complaints end in circumlocution and red tapeism, but what is lost or stolen rarely finds its way back.

RECEIVED.—S. R.—H. B.—T. W.—Artizan.—O. B., &c.

NOTICE.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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EPPS'S COCOA.—Some time since, in a series of articles in these columns upon food, we spoke in terms of unqualified praise of Messrs. Epps and Co's "Prepared Cocoa." The opinion we then expressed as to its purity and nutritious qualities has been fully endorsed by the public, as shown in its increased and steadily increasing consumption. We believe that Messrs. Epps's Manufactories are now the largest of the kind in the three kingdoms, and the total quantity of "Prepared Cocoa" consumed at the present time approaches four millions of pounds annually. This result is not surprising. The dietetic properties of native cocoa are well known, but in the form prepared by Messrs. Epps, Homœopathic Chemists, they are rendered additionally valuable, both on account of their increased nutritive power and digestible character.—*Civil Service Gazette.*

MESSRS. EARLEY AND POWELLS beg

to announce that Messrs. John Hardman and Co., of No. 1, Upper Camden-street, have resigned the business of Artists, Sculptors, Church Painters, and Metal Workers, in their favour.

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PRESS NOTICES.

Athenæum.—We cannot now continue an examination of the contents of Mr. Brash's capital book. Let it suffice them that we recommend the perusal of the chapters on the churches of the Cistercian Order, Fonts, some of which have curious peculiarities, Masonry, and Early Christian Masonry. . . . Mr. Brash is a painstaking and accomplished student.

Academy.—Since Petrie gave to the public his (alas!) unfinished work on the Ecclesiastical Architecture of Ireland previous to the Anglo-Norman Invasion, the work which heads this article is the most important and valuable contribution to an interesting and almost unexplored branch of knowledge. . . . The volume does great credit to the enterprising publisher.

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The Irish Builder.

VOL. XVIII.—No. 403.

The Sanitary Condition of Ireland.

UDGING from the last Quarterly Return of the Registrar-General, the sanitary condition of Ireland evidences an improvement. There

is a diminution to the extent of 764 deaths in the zymotic or preventible diseases. The deaths registered in Ireland during the quarter ending the 30th of June last amounted to 25,602—12,799 being males and 12,803 being females, affording an annual ratio of 1 in every 50, or 19·2 per 1,000 of the estimated population. The registered deaths in the

province of Leinster show an annual death-rate of 21·9 in every 1,000 of the estimated population of the province. The rate in Munster was 19·1, in Ulster 19·2, and in Connaught 15·5 per 1,000. The following counties show the highest death-rates:—Dublin heading the list with 24·3 per 1,000; Wexford, 23·5; Waterford, 23·4; Kilkenny, 23·8; Down, 22·0; Louth and Westmeath, each 21·4; Meath, 21·2; Armagh, 21·0. Those having the lowest death-rates were—Mayo, 13·6 per 1,000; Leitrim, 14·1; Fermanagh, 15·8; Roscommon, 15·4; Sligo, 15·6; Clare, 16·1; and Kerry, 16·9.

Taking the ages of those who died—of the 25,602 deaths registered during the last quarter, 8,411, or 18·8 per cent. were of children under 1 year old; and 10,556, or 41·2 per cent. were of persons aged 60 years and upwards. In the province of Leinster the number of deaths of children under 1 year old equalled 18·2 per cent. of the total registered therein; in Munster, 13·6 per cent.; in Ulster, 12·8 per cent.; in Connaught, 14·6 per cent. The deaths of persons 60 years old and upwards registered during the quarter in Leinster were equal to 38·8 per cent.; in Munster, 41·1 per cent.; in Ulster, 38·8 per cent.; and in Connaught to 47·1 per cent. of the total deaths registered in the province.

In the deaths from old age, there are several remarkable centenarians whose great longevity would, no doubt, be looked upon with more than grave suspicion by Mr. Thoms, the London general litterateur, but centenarian sceptic. Thirteen persons are stated to have attained the age of 100 and upwards, one case being registered at the age of 113 in the Anascaul district, Dingle Union. The registrar of Broadford, Newcastle Union, reports the death of a woman at Glanduff—"a widow of the labouring class, at the advanced age of 108 years; she was of temperate habits, neither smoked nor snuffed; she maintained her intellect unclouded to the last, and walked a mile in perfect health a week before her death." This remarkable old dame, supposing her baptismal certificate is attested, was born about the year 1768, and was 14 years old when the Parliament of 1782 was established, 80 years old in the memorable Rebellion of

'98, 7 years old when O'Connell was born, and has outlived him nearly thirty years, his centenary being only last year, though he died at a ripe age in 1847. Had the widow of Glanduff been of a literary cast of mind, what a gossiping volume of memories might she not have furnished us, for doubtless, though she neither smoked nor snuffed, she was fond of a strong cup of tea, and could divine the signs of the times in the grounds of the tea-leaves that encircled her cup when she chosed to "toss" it.

But to proceed. Of the deaths registered in the Tuosist district, Kenmare Union, the ages of 5 ranged from 80 to 90 years. In Belfast, where the deaths of children under 1 year of age registered during the quarter amounted to 223, and of persons 60 years of age and upwards to 109, the registrar of No. 10 district states that "the action of burial societies makes the return of the ages of the old untrustworthy to a very serious extent. In order to obtain insurance at a low rate, the age of the party insured is, I believe, in many cases, grossly misrepresented."

The registrar's statement may or may not be true; as it stands, however, it is a mere assertion, and steps should be taken to confirm it by bringing facts forward which would place the statement beyond all doubt. We find of the 30 registrars furnishing reports as to the sanitary condition of their several districts, 20 have reported favourably, and have also testified to the benefits resulting from the successful working of the provisions of the Sanitary Act.

It will, however, not be amiss on our part to glance over a number of the registrars' reports in different districts in the four provinces, as the evidence they furnish will show that the sanitary education of the people at large throughout the country is still in a very backward state. Many of the representatives of the people in local boards and unions have a personal interest in opposing sanitary reform, and officials acting under are not independent enough to speak their minds. A faithful report would often go to prove that the greatest offenders against the sanitary laws are the members of local boards and guardians of the poor; but sanitary officers do not like to blurt out the truth about the evil doings of their masters. Some recent Local Government Board inquiries will prove the truth of our statements, as will also some forthcoming inquiries not a hundred miles distant.

At Tandragee, Lisburn district, there had been an epidemic fever, mostly typhoid, during the last quarter; the water was bad, and the houses filthy. At Coagh, in the Cookstown district, there were also several cases of typhus and typhoid; some of the houses where it occurred were in a most uncleanly state. At Stewartstown, in the same district, there is an improvement; though we learn that they were in the habit previously of using the water obtained out of an old sewer. Other places in the Lisburn district suffered from zymotic diseases, but some improvement is evidenced of late. Scarletina has been prevalent at Waringstown, in the Lurgan district, but the place is now on the mend.

The condition of Newry is favourably spoken of, there being a desire of late to carry out the provisions of the sanitary acts; still some cases of fever are reported. In part of Newtownards the town pumps are out of order, and the people, as a consequence,

are using bad water. The registrar writes:—"Newtownards did not adopt the 'supply of water' clause of the Towns Improvement Act, 1854. I have advised that the 11th and 12th clauses of the Sanitary Act, 1866, give them, and were designed to give them, and the Commissioners of all the towns which had not adopted the supply of water clauses of the Towns Improvement Act, power as to sewer authority, to put on a sewer rate, and use it for the purpose of supplying the town with water." The Commissioners, however, are reported as not taking the advice, though plenty of pure water exists under the soil. At Gweedore scarlatina still continues, and in a malignant form—scarcely a part of the district escaping. Throughout the Irvinstown district in several places scarlatina has been prevalent, and the baleful custom of holding "wakes" has helped to spread the disease. At Eglinton, in the Londonderry district, scarlatina has also been prevalent and widely extended. The sanitary condition of the district, as might be expected, is generally bad, and there is little desire evinced to conform to the law. At Carlingford the sanitary state of the district is improving. At Kells, not long since notorious for its bad state, no single case of infectious disease is reported. Sanitary matters at Naas are being carried out slowly. At Castletlane, in the Navan district, there were some malignant cases of scarlatina. Good water is reported scarce, but it is pleasing to see that the Sanitary Act is working well. At Rathdrum forty-seven cases of typhoid fever were admitted into the fever hospital, and as many more were attended in their own houses during the quarter. At Enfield, Trim district, the sanitary state is reported good, but many of the dwellings of the labouring class are unfit for habitation. Scarletina and measles are prevalent at Enfield and neighbourhood.

At Roscommon the sewerage in places is described as in a most imperfect state. The nuisance has been repeatedly brought under the attention of the sanitary authorities, but they do not move. The sewerage of the town requires a thorough remodelling. At Abbeylisk scarlatina has been prevalent. A man, a labourer, who died in this town, is reported to have been 105 years old. At Carlow typhoid has been prevalent; children particularly have suffered. At Fethard typhoid and typhus have been prevalent for three months. At Emo, Mountmellick, though the condition of the district is reported as improving, the registrar states he has some difficulty in preventing accumulations of manure heaps at the cabin doors, and the cabins are too small and badly ventilated. At Clifden the death-rate has been higher, but the district is reported as improving. At Loughrea the water is still bad, but the authorities have succeeded in preventing the pigs, as heretofore, being housed in the dwellings of the people. At Craggaknock, Kilrush district, typhus fever has been prevalent. At Achill, Newport district, filth, bad drainage and ventilation, as usual, show the results in the prevalence of typhus. Here the inhabitants, for the most part, are reported to live in large villages, a large number of persons dwelling in each hovel, in which they also kept their cattle and pigs. Lime is difficult to procure, none being said to exist in the district. The Union Fever Hospital is thirty-two miles distant, part of which distance has to be performed in boats.

The consequence is that the infected are not sent to hospital, but remain to infect others. The remuneration paid to the sanitary officer is reported as "wholly inadequate to the amount of work required in the district, which, if conscientiously performed, would be little short of a herculean labour." The registrar, in his last report, states his relations with the district, as medical and sanitary officer, have ceased. Poor Achill! always in poverty. You have been visited, preached to and lectured by missionaries of all kinds, but your great need is not the Gospel alone, but profitable, industrial employment and habitable dwellings.

In Carrick-on-Suir district, at Portlaw, the mortality has been excessive; ten deaths were from acute pneumonia, chiefly of the typhoid character, traceable to unhealthy homes and surroundings. At Enniscorthy a great deal of the mortality is attributed to the defective sewerage and the want of healthy human dwellings. At Ballyhowley, Fermoy district, typhoid fever is prevalent. There is a school of over 800 who have no water to drink save out of old and badly-cleaned barrels. Cases or groups of cases are traced by the registrar to this cause.

The Lodger Act which is being enforced at Kilmacthomas is checking overcrowding, and, of course, promoting domestic cleanliness. There is a lack of places of accommodation. We fear this will long continue over the country districts, when we find some would-be architects and surveyors actively planning houses, and superintending their erection, without providing the rudest form of closets or privies. In Waterford, Kilmakevoe, the rate of mortality is high. The sanitary authority is said to afford every facility in carrying out the provisions of the sanitary acts, and, where suitable dwellings have been erected for the labouring class, longevity and absence of disease is observable.

In Cork, No. 7 district is reported free from contagious diseases, but the county gaol nuisance remains unabated. The rural sanitary authority have referred the matter to the urban sanitary authority, and the latter have appointed a special committee to inquire into the matter, but nothing is yet being done. Speaking of the Sanitary Act the registrar gives his opinion "it is a piece of cumbersome machinery very difficult to keep in gear, owing to the conflicting views and interests of the local boards who have the administration of it." In Cork, No. 7 district, typhus of a malignant type prevailed during the last quarter. Some of the cases were traceable to a "wake" held over a man who died in the South Infirmary of typhus fever.

At Bruree, Kilmallock district, 14 cases of typhoid fever occurred in the quarter. The registrar attributes these cases to the dry weather, and to the filthy state in which the labouring class keep their persons and cabins; they scarcely ever wash their children.

At Broadford, Newcastle district, typhus has been prevalent, the people refusing in the dirtiest cabins to have fever cases removed to the hospital. The district registrar considers that the Dispensary Medical Officer should have compulsory power to order their removal, and thus check the progress of contagion. He is quite right in his opinion, for at Killarney, in nearly every instance, patients were willing to be removed to hos-

pital, with the exception of those residing in the townland of Lahard, where, in consequence of their refusal, fever spread to nearly every house in the locality (in all about 27 cases). Most of these houses were unfit for habitation.

At Newcastle, too, in which the union workhouse is situated, the sewage flows into the river, a great part of the bottom of which is exposed to the rays of the sun, giving up bad smells. The well at Castlemahon, from which the people of the village get drinking water, is constantly flooded by the river, and there is also an offensive sewer in the village flowing into the river.

In the historic Skibbereen of the famine period, we are glad to hear that at present the sanitary arrangements are all that could be desired; and also in the equally historic Skull. In the latter place, however, the houses of many of the poor are in a wretched state from the total absence of sufficient sanitary requisites. In the union of this town there is at present a woman hale and hearty in her 102nd year. At Brosna, Tralee district, another woman is reported to have attained the same great age. The sanitary arrangements here are reported to be improving.

In Tralee, No. 1 district, the sanitary authority have at last decided on supplying the town with water. They propose bringing it from a mountain lake three miles distant. If this work be carried out, a population of 9,506 inhabitants will no longer be dependent for their water supply on a few pumps, always yielding a very impure supply of water.

From the above summary it will be seen how sanitary matters stand over this country. In several towns and places which we have not mentioned, we are glad to see a marked improvement has taken place of late. We cited a number of bad cases, but not all or nearly all, to show the impediments and drawbacks that still exist to a general sanitary reform throughout Ireland.

QUERIES FOR "JERRY" BUILDERS, OR HINTS TO COUNSEL. BY A PRACTICAL BUILDER.

"For among my people are found wicked men: they lay wait, as he that setteth snares; they set a trap, they catch men. As a cage is full of birds, so are their houses full of deceit; therefore they are become great, and waxen rich."
JEREMIAH v., 26, 27.

You are a Master Builder, are you not, and the builder of those houses which were characterised as run-up, and of the "Jerry" class?

Will you swear that there is no truth in the statements published in the defendant's paper, as to the construction of the houses being bad, and the materials and workmanship equally so?

You will. Well then, Mr. Master Builder, what constitutes good building?

Is mortar composed of three parts of clay or loam with a little sprinkling of lime, a good bedding mortar for brickwork?

Is wall plaster, made up of road scrapings, screened ashes, vegetable mould, or ordinary "shoot" material, a proper floating or rendering stuff for the coating of walls?

You have heard the evidence of a professional architect, a district surveyor, and a practical builder; are you prepared to swear that there is no truth in their statements?

You were a working bricklayer, I believe, a short time since, and previous to this, were you not for some years a bricklayer's or builder's labourer?

In fact, then, Mr. Master Builder, you have risen from the ranks, or rather from the "mortar bank," picking up your trade on

the way, never serving any regular apprenticeship?

Exactly so. After the admission are you still prepared to swear you are qualified to speak with confidence on building construction?

Just so. You are to some extent qualified. Having then graduated on the "mortar bank," carried the hod, ascended the ladder to the top of the scaffold, you came to the conclusion one fine morning that you had acquired sufficient knowledge to justify you in hanging the trade of hodman and assuming the rôle of a Master Builder?

Of course you know a right angle from a triangle, and what is the exact difference between a vertical line and a perpendicular one?

At all events you know what a perpendicular is. Now let me ask you, as a Master Builder, will you swear that the walls of your houses are quite perpendicular, truly plumb, and do not overhang in the least?

Yes, yes—I understand; but will you positively swear that the front walls of some of your houses, and two or three of the end walls do not overhang some inches, and that the walls in general of some of the first erected houses are not full of "settlements"?

You swear, then, you saw the work plumbed, and that the "bob" struck a true perpendicular on the plumb rule?

Good; but are you equally prepared to swear that the plumb rule was a correctly made one, and technically and practically tested, truly parallel, and not the least concave or convex on either side?

Will you please, Mr. Master Builder, turn round your face to the gentlemen in the jury-box and tell them how you prove the correctness of your plumb rule?

Aye, aye, shooting a straight edge and gauging a thickness or breadth is all right enough in its way, but may there not still be a little round on one side of the plumb rule, and a hollow on the other side?

In testing the correctness of a plumb rule before using, how do you proceed?

Yes, yes; the "usual way" is good as far as it goes, but can you afford the jury a mathematical or practical method of test about which there can be no doubt?

You admit, then, that you cannot; still you have positively sworn that the plumb rule used was a correct one, because it was made in what you call the "usual way" by one of your workmen?

These houses, then, that are being built by you have not been planned by any architect?

They are built, you say, according to a plan now very much followed over the metropolis?

In the present instance, according to your statements, you have improved upon the usual stereotyped plan by economising materials, and adding to the available space?

The stairs in your houses are novel in their way, are they not?

Nothing out of the common, you think. They illustrate no new line of departure for the comforts of the tenants?

You don't understand my question; I'll try, then, and make myself understood. Well, then, Mr. Master Builder, are stairs boxed in between two partitions, lighted by no ope, partitions with studding 8 ft. between, with brickwork one brick thick, or rather brick on edge—stairs with a rise of 9 ins., and treads about the same breadth; stairs having no regular landings, back and front rooms above being entered from a broad step on top; are these, Mr. Master Builder, fit and proper stairs for human dwellings?

Speak up, please, so that the gentlemen of the jury can hear you, and answer a plain yes or no.

You say they are good of their kind—that is, they are good enough for "Jerry" houses—good enough for the class of people they are intended to accommodate; but, let me ask you, are any class of builders privileged to build houses ill-planned and in violation of the building acts and sanitary regulations, and to put up staircases that endanger life and limb?

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PROPOSED NEW PAROCHIAL NATIONAL SCHOOLS. HOLYWOOD CO. DOWN.
WILLIAM BATT, ARCHITECT.

21 William St Dublin

No answer. Well, then, I will not press you further on that head; but you are prepared, I suppose, to answer a few questions as to the thickness of your doors, sashes, and the timber scantling used generally in the carpentry and joinery work of your houses?

You say you are. Well, then, are not your front doors less than $1\frac{1}{2}$ in. in thickness, or nearer to $1\frac{1}{2}$ in. Your inside or room doors a little over 1 in. in thickness, and the thickness of your window sashes between $1\frac{1}{2}$ in. and $1\frac{1}{4}$ in.?

Something fuller than that, you say. An eighth of an inch, or a sixteenth of an inch, or how much fuller?

You are not exactly sure. Yet you believe that they are fuller than the dimensions supplied by a professional man who measured them. Is your belief strengthened, then, on the matter to swear even to the sixteenth of an inch?

You will not, therefore, on second consideration swear one way or another in the matter. Well, I think it is a wise resolve of yours, which the gentlemen of the jury will, no doubt, give you credit for.

Turning to another point, let me ask you, what constitutes ordinary brickwork for front walls?

In the building of several of your houses in certain places, particularly in partition work, I believe you preferred the brick laid on the edge, as it added to the economy of space and the quickness of workmanship, as well as the saving of materials?

Yes, yes, I quite understand. Motives of humanity and philanthropy may have induced you to give your future humble tenants as much room as possible, and houses at very low rents; but were there no personal interests influencing you—you built, did you, solely for the public good?

A very benevolent motive, in sooth; but unfortunately, as we have seen, your philanthropic motives were misconstrued by callous and suspecting newspaper critics, by medical officers of health; and those unsympathising fellows called district surveyors pounced down upon you, and your benevolent motives underwent a change?

Not having the fear of the Building Act before your eyes, you treated it as a dead letter by running your head against its provisions?

Just as I thought. You commenced a prosecution against newspaper critics honestly endeavouring to perform a public duty in the interests of the public health, and now you find yourself confronted by a counter-prosecution on the part of the parish authorities. You see, Mr. Master Builder, that those who live in glass houses should never throw stones.

No doubt. A man can build as cheaply as he likes, and in whatever way he likes, if he build solely for his own pleasure, but not for others' occupation. He may build to sell, but not to kill; for the buyer can punish the seller who attempts to obtain money under false pretences. I'm here, however, not to argue with you, but to interrogate you.

Now, as to the foundation of your houses. Is it true, or is it not, that you have dug down to between 6 ft. to 8 ft., and more in some places, removed the sand, and sold it and the shingle, and, though you had plenty of sand on the site, you used little or none of it in the plastering of your walls?

In fact, you filled up the excavated pits or foundations between your walls with the refuse of dust bins and other rubbish and scavenge matter, and you also utilized a large portion of this stuff and road scrapings for your wall plaster?

In using this material you say you only acted as others have done and are doing, and that it is considered not bad material?

Please tell the jury what constitutes good mortar—that is, mortar with cementing and hardening qualities.

Is it not necessary that mortar should be composed of clean sharp sand and lime in certain well-defined proportions; and, in the

absence of river sand, should not pit sand, if used, be washed, so that no particles of clay or loam should remain? Come now, Mr. Builder, tell us is this mortar used in the brickwork of your houses much better than road mud?

Do you know what hydrate of lime is, or what is carbonate of lime? Well, do you know what is slacked lime, and what it is converted into after it is mixed with sand and acted on by the atmosphere?

I suppose, then, there is no use in asking you what is carbonic acid gas, and if carbolic acid would be equally as good in effecting the hardening of mortar as the former?

You say you're not a "pothecary"—chemist you mean. I am pretty well aware that you are not, but you are a Master "Jerry," according to your own admissions, who believes common clay, loam, or road mud mixed with a little lime makes a mortar with wonderful cementing qualities?

Of course you treat your plaster in a similar manner as you treat your mortar. Coal ashes, and road scrapings warmed up with a little lime floated on your walls expeditiously, makes, in your opinion, an admirable "sticking plaster"?

Do you know how to cure a smoky chimney? Oh, no. You are not a chimney curer; you are only a constructor of chimneys that act with a draught downwards instead of upwards.

May I ask you what is the exact size of the principal rooms of your houses? Leaving out the recesses formed by the "genteel" bay window to the front parlours of your houses, are these rooms much more than 6 ft. by 8 ft., or do they even amount to those dimensions?

Your rooms, then, if not very commodious are very compact. Pretty self-contained little parlours, fitted up with ducky little cupboards, and when a medium-sized table is placed in the centre of the room and the tenants sit down to a meal, they may lean their backs against the wall. There is, of course, no danger of suffocation in your parlours; though they are small they are neat, and the rooms are well ventilated by "cracks," settlements, shaky doors and sashes?

You have heard, I suppose, before now the celebrated song of the "Spider and the Fly"?

You may have heard it, you say, but you forget. Well, I'll refresh your memory—

Come into my parlour, said the spider to the fly,
'Tis the prettiest little parlour that ever you did spy.
If you only put your head just inside of the door,
You'll see so many curious things you never saw before.

Now, Mr. Builder, is not that a faithful description of your ducky little parlours, constructed *pro bono publico*, and each a *multum in parvo*?

What is the scantling or the dimensions of the timber that form your joists, partitions, rafters, ceiling joists, and the stiles and rails of your doors and sashes, and can you deny that the timbers are green and unseasoned?

Without going through them all *seriatim*, can you deny that your hall doors are under $1\frac{1}{2}$ in., and that a large number of your inside four-panelled room doors are not more than $1\frac{1}{2}$ in., and in several instances only full 1 in. in thickness? Can you deny that your window sashes are under $1\frac{1}{2}$ in., or, to speak more plainly, a something between 1 in. and $1\frac{1}{2}$ in. in thickness?

Are not your flooring boards between $\frac{1}{2}$ in. and $\frac{3}{4}$ in.— $\frac{1}{2}$ in. at most? Now I will let you tell the jury yourself the dimensions of the timber forming the joists, partitions, roof, ceilings, &c., and when you have done I'll compare notes with you.

What fall, may I ask you, have your house drains, and are they connected with the street sewer; and are all the joints watertight, and with what materials are the joints made?

The ordinary fall, you say?

The district surveyor, you have heard, holds a different opinion. From what he says they appear to be on a zigzag level, and, taking the whole length, they indicate the fall rather in the reverse direction.

How do you account for that? Has there been a landslip, a settlement in the natural

or rather the unnatural soil, as well as a settlement in the work of some of your houses?

'Tis the fault of the parish authorities. Oh, is that it? We are then to believe they made a mistake in the level of the street sewer, which is likely to drain into your house drains instead of your house drains into them?

I suppose you know what gravitation means? You evidently do not believe in its laws, or you have made a wonderful discovery. In fact, Mr. Builder, if your plan of draining houses succeeds, you will eclipse Pythagoras, Archimedes, and the rest. Water heretofore found its own level, but you will make it gravitate upwards, *minus* what leaks at the joints?

I will not detain you much longer. Answer honestly this question. Are you or are you not belonging to a class of men called "Jerry" builders?

You don't deny it. Is not there a large amount of the work of your houses known as "scamped" work, and such as would not be performed by any respectable London building firm?

It may not be your fault, but it is your misfortune (perhaps I might have said your fortune, in many instances) to have engaged in "Jerry" building. In view of this and of the perils and profits belonging, you run the gauntlet of sanitary laws and building acts. Do you not think it would have been wiser and more prudent on your part to have gone on rejoicing as a successful and fortunate "Jerry" builder, developing a thicker skin, and avoiding going to law with your critics?

A man has a right to vindicate his character. True; but in your case it was the character of your work which was attacked, not your personal character. In the conflict I find, however, your reputation as a good builder has been somewhat rudely knocked on the head by your own evidence.

I'll not ask you any more questions. You may go down. My lord, that ends my case. I relinquish my right to cross-examine the other witnesses, or to take up the time of the court with an address. The plaintiff's answers to me in this suit fully justify the plea of my client, the defendant, and I do not fear the verdict of the jury!

NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.*

THE season of 1742 ended well for all parties, managers and performers, as well as satisfying the playgoing public on the score of good theatrical representation. When Miss Woffington and Garrick left for London it was wondered what would be the next attraction presented to the public by the managers of the rival theatres. Both had done their best to please, but events will show that a retrogression instead of improvement followed close on the recent successes. Perhaps we cannot illustrate the state of matters than by quoting a passage from Hitchcock in allusion to this period. He writes: "There is a point which human perfection can attain, beyond which it is impossible to go. The managers of both theatres seemed to have reached this ultimatum. They now had feasted the public with the performance of Quin and Cibber, Garrick and Woffington. Their resources thus exhausted, necessity obliged them eagerly to seize on the first novelty that presented itself. Unsatisfied with the situation of affairs at Aungier-street, Mr. Swan came forward as acting manager and occasional actor. He laudably at the beginning of the season opened a subscription for eight of Shakespeare's principal plays, which, however, did very little. But Duval, unmindful of the reputation he had so lately acquired, by a single stroke debased the Irish stage to a degree never known before. This was by engaging a company of tumblers and rope dancers, who, though first in Europe, should not have been suffered

* See ante.

to disgrace the walls of the lowest stage in it. Such diversions are very well in their proper place, but should never be permitted to contaminate the inside of a theatre. However, they drew the admiring multitude, and so far answered the end of the manager."

Often since Duval's time, both in London as well as in Dublin, we regret to say, that theatres have witnessed not only companies of tumblers and rope dancers, but common conjurors, wizards, and other motley entertainers, not much better than that presented in some of the lowest of our "concert halls." Here is a copy of the play-bills of Smock-alley Theatre, issued on the occasion of Duval's opening with the company of tumblers and rope dancers:—"By permission of the Right Hon. Luke Gardiner, Esq. At the Theatre, Smock-Alley. This present evening, Tuesday, December 7th, 1742, will be presented by the celebrated company of Germans, Dutch, Italians, and French, several feats of activity, consisting of rope dancing, tumbling, vaulting equilibres, and ground dancing. Madam Garman performs on the rope with stilts (never done before), and will also perform on the slack rope. Monsieur Dominique will perform the surprising equilibres of the Circle, never attempted by any but himself, in which he is drawn up 40 ft. high on his head, fires off two pistols, and is let down again in the same posture. Monsieur Dominique and Monsieur Guittar perform the surprising tumble over the double fountain. Monsieur Dominique tumbles through a hoghead of fire in the middle and a lighted torch in hand, &c."

Some of these performances are equal to our modern Blondins or Lulus, and the professional names assumed by the performers in 1742 are apparently as fictitious as those used at the present time. After the previous success in Dublin, the presentation of the above bill of fare did unmistakably indicate a new line of departure. It was not, however, that Shakespeare "spelt ruin" in Dublin then, as it was said of the name in London a-half dozen of years since; but a strange novelty was introduced on the stage proper, legitimate enough as an entertainment elsewhere, and, in the absence of better, it was patronised. The example, of course, was not a good one; and we do not marvel at Hitchcock, himself a dramatic author, actor, prompter, and acting manager in his time, exclaiming, "Oh! shame, where is thy blush? The very boards which a few months before were trod by the first actors of the age, now 'sated with celestial food, are feeding on garbage.' To the credit, however, of the public taste, none but the very lowest of the people went to see them. The galleries were crowded, but it was a reproach to be seen in the boxes. Every person of sense lamented the disgrace and decline of the stage, now perverted from its noblest uses. On such occasions surely the interference of the legislature is not only highly laudable but absolutely necessary."

This was asking more than ever the Lord Chamberlain, as licenser of plays, dreamed of doing. Immoral plays have a right to be suppressed; but even Government have gone further, through their deputies, by forbidding the acting of plays with witty or satirical allusions designed to turn into ridicule certain public officials whose words and actions did not square with public opinion. It is another thing, however, to expect the legislature to interfere with the proprietor or manager of a theatre in putting before the public what entertainment he likes. If he injures his own property or prospects he has himself to thank. A Theatre Royal, though it may be patronised by royalty and receive a certain help occasionally, is not a government institution. Had we in these islands a truly National Theatre—an establishment long desired—we might then expect that what is called the legitimate drama would be upheld and supported for its own sake, and such a representative theatre kept free from rope-dancers, tumblers, and others of that kindred fraternity, who would always find plenty of circuses, halls, and "open spaces"

to carry on their performances, and might, no doubt, count even upon a fair share of the patrons of the legitimate drama occasionally among their audiences.

At the date of which we are speaking, Aungier-street was the Theatre Royal; and Mr. Swan, the acting manager, exhibited some spirit in his exertions to expose and prevent a repetition of the performances witnessed at Smock-alley Theatre. On January 19th, 1742-3, in a prologue spoken by him at Aungier-street to the tragedy of Othello, his views, and no doubt the views of a large number of the Dublin public, were expressed in the following lines:—

Oppressed by foreign arts, the drooping stage
In Shakespeare's name demands your honest rage,
While antics vault o'er sense, and nature's laws
Invade the muses' seat, and gather rude applause
From boys who stare away their slender wits,
And teeming dames diverted into fits.

With guarded step, high poised upon the rope,
The dancer traverses the tottering slope,
Wanton extends her half dressed limbs in air,
And kindly blushes in each modest fair.

Lo! next succeeds the tumbler's plastic train,
Perversely raising awkward mirth from pain.
Degraded in the serpent's tortuous coil,
See one climb downwards with ingenious toil;
The next succeeds, as wide from nature shows her skill,
He swallows upwards his preposterous meal,
Inverts high heaven's intent in forming man,
Pronc to the earth his head, sublime his feet profane,
Distorted nature shirks the aching sight,
And horrid wonders dreadfully delight.

The vaulting tribe, to close the monstrous scene,
With all their skill prepare the nice machine:
O'er tiers of men, through tubs, the gaping crowd
See leap-frog spring by mighty force of wood.

Let other nations boast this senseless art,
Our's raise the genius and improve the heart.
The stage, first trod in virtue's nobler cause,
Now seeks protection of its injured laws.
Let ancient order warm the honest breast,
For nature in lov'd Shakespeare's works condescend;
Be it your glory to assert the stage
To raise the sinking genius of the age,
To lend the tragic muse your generous aid,
And rescue sense from folly's widening shade.

Instead of British zeal for Shakespeare's name,
By building monuments to guard his fame,
You give the immortal poet nobler praise,
And in your bosoms treasure up his lays.

The spirit of this lay sermon was good in its way, but the Aungier-street staff at the time were weak, and their influence to stem the torrent in their own favour was too small to be effectual. Had the company been a powerful one it might have been otherwise. The rival theatres were as much interested in smashing each other up as they were in amusing the public. In our own time two Dublin theatres in full swing were more than sufficient for the wants of the public unless the attractions were more than ordinary and well sustained; but in 1742-3, with the then small population of our city, it was often "hard lines" with the managers of theatres to make both ends meet by paying working expenses. Of course there were occasional seasons or runs of good luck for both theatres, but a great success at one house meant a run of ill luck for the other.

At this time, as well as at periods subsequently, actors were badly paid and sometimes not paid at all, the theatrical business and management was too often neglected, and the "bucks" and "bloods" and roughs of the town acted generally in the theatres as if no such thing as law and order were recognised. Managers and actors were dictated to, and were perforce compelled to oblige the aristocratic "dare-devils" in the pits and boxes and the ungodly "gods" in the galleries. Titled scamps and "college boys" claimed free entry behind the scenes, and even invaded the dressing rooms of actresses and actors, and general impertinence and indecorum reigned under such a system, until it was knocked on the head shortly after under the management of Sheridan, to whom certainly belongs the credit of reforming the Dublin stage.

The next effort of the proprietors of Aungier-street Theatre was to enlist the services of music "to succour poor neglected Shakespeare," so badly bruised by the acrobats at Smock-alley. The famous Dr. Arne was at the time in this city delighting audiences at the Music Hall, Fishamble-street, and under his direction was a company of the best singers witnessed up to that time in Dublin. This company was engaged by the

proprietors of Aungier-street, and the Masque of Comus was revived, no expense being spared to render it attractive. Dr. Arne conducted the musical department, and we are informed he set new the whole piece, divided the choruses into parts, which up to that time had been sung in unison, and of course the doctor was warmly interested in its success. The manager prepared new dresses, scenery, decorations, &c., and the parts were cast as follows: Comus, Mr. Swan; first Spirit, Mr. Sparks; second Spirit, Mr. Watson; Elder Brother, Mr. Barton; Younger Brother, Mr. J. Elrington; the Lady, Mrs. Elmy; the song, "Sweet Echo," accompanied on the German flute by Mr. Neale; pastoral Nymph and Sabrina, by Mrs. Arne; Euphrosyne, Mrs. Bailden; Principal Bacchinal, by Madame Sybille—both pupils of Dr. Arne; a double orchestra, led by Dr. Arne; Mr. Swan spoke the prologue, and Mrs. Furnival the epilogue.

The opening night was on the 10th of January, 1742-3, and a crowded house and great applause cheered and amply repaid the manager for his pains. The piece was often repeated with success. Several other musical pieces, got up by the management at Aungier-street, followed, which also proved attractive and profitable.

Shortly the cloud that hung over the legitimate drama in Dublin was to pass away, and a new actor to appear upon the Irish stage, which he was destined to ornament as well as reform. Theatres are to unite, rivalries cease; nevertheless new oppositions spring up for awhile, and new houses open, and many anxieties and disappointments are experienced before the current of popular favour flows on unimpeded. How the wheels within wheels worked, who were the sufferers and who the successful in the change that succeeded in the conduct of the Irish stage, time will shortly reveal.

CITY IMPROVEMENTS.

SUGGESTIONS IN CONNECTION WITH A PROPOSAL FOR IMPROVING CORK-HILL.

It may be expected that the improvement of the streets adjacent to Cork-hill will soon be taken in hand, and altogether the present seems an opportune time for bringing into public notice a method of effecting this, and also a proposed new street intimately connected therewith.

The means proposed for effecting the improvements required at Cork-hill are: the formation, in the way shown on plan, of a street (having a uniform gradient of 1 in 80), from Palace-street to Castle-street, passing between the City Hall and the Castle, and the widening of Castle-street.

The new street, the formation of which is proposed, would run (as shown on plan) from Palace-street to the junction of Aungier-street and South Great George's-street.

The execution of these proposals would render necessary the removal of some of the Castle buildings, and probably some modifications of part of those which would remain, and might be made the opportunity of removing the viceregal residence from it, and concentrating in it all the Irish Government departments, which there are no special reasons for having located elsewhere.

The present Castle buildings are, to say the least, very inferior to the other public buildings in Dublin, and the re-edifying of them in a more worthy style—the key-note to which would naturally be given by the Birmingham Tower—is a thing which the Government may not unreasonably be expected to carry out.

A much more suitable site than that on which the Castle stands for a viceregal town residence is that now occupied by the Museum of Irish Industry (or Royal College of Science) in St. Stephen's-green. The contemplated erection in Dublin of new Science and Art buildings will, it may be presumed, render this site available for a viceregal residence, which might be also an ornament to Dublin, which the present one is not.

The concentration of the executive depart-

ments of the Irish Government, on the Castle site, would leave much of the Custom House buildings vacant. If the area thus made disposable were sufficient it might be worthy of consideration, whether the vacated part of this building should not be used for the required Science and Art buildings, the necessary internal changes, of course, being made.

Some, if not all, of the proposals now made may be assumed to be entitled to the consideration of the Government and of the Corporation of Dublin; and as this, if given, will probably lead to a correct estimate of what they are worth, it seems unnecessary to now enter on a discussion—which would necessarily be lengthened—of their merits.

Should the improvements at Cork-hill now proposed be deemed inadmissible, it is to be hoped that these will be effected, not in the way proposed in 1853 by the Corporation, but by the formation of the street proposed by Mr. Drew from the western end of Dame-street to St. Michael's-hill, passing north of Christ Church Cathedral; but, instead of carrying the continuation of this street to the north of St. Audoen's Roman Catholic and Episcopal churches, as Mr. Drew proposed, it would seem a manifest improvement to continue it in a straight line from Christ Church to the eastern end of Thomas-street. A nearly perfectly straight line of street (shewn by parallel lines on plan) would thus be provided between Dame-street and Thomas-street. L.

PROPOSED NEW PAROCHIAL NATIONAL SCHOOLS, HOLYWOOD, CO. DOWN.

THE present schools having become too small, the select vestry determined to enlarge them, but were obliged to abandon the matter after several sketches had been made, as the proprietor of the adjoining property did not feel disposed to meet them by asking a fair and reasonable rate for the small portion of ground they required at the rere. In this dilemma Captain Harrison, J.P., was applied to, and he, in a most praiseworthy manner, gave a very choice site for the new buildings on ground adjoining the church.

The accommodation on ground-floor will be: a school for the girls, and one for the boys, each 30 ft. by 28 ft. and 14 ft. high, having good infant school and class-room off same, and large separate yards having play-sheds, and a caretaker's house is provided at rere.

On upper floor will be a large lecture-hall having a library or lecture-room off it and communicating with staircase, and at end of hall will be a raised platform.

The roof will be open to ridge, the principals being exposed, and walls will be sheathed all round, the wood-work to be pitch pine stained and varnished. The ground in front will be enclosed with neat gates and railing.

The walls are to be built with freestone from the Scrabo quarries near Newtownards. Proper attention has been paid to ventilation, and it is expected the work will shortly be commenced, as tenders have been invited for its erection. Mr. William Batt, jun., of Donegall-place, Belfast, prepared the plans and specification.

LOCAL GOVERNMENT AND MIS- GOVERNMENT IN IRISH TOWNS.

THE evidence afforded before the commissioners appointed to inquire into the local government and taxation in Irish municipal towns reveals, in many instances, a bad state of matters. Municipal duties are shirked or neglected, debts are contracted, money wasted, and new rates struck to tide over the difficulties. Not a little patent corruption has been shown to exist, and the evidence obtained in Limerick and Ennis go to prove that another reform of municipal institutions

is urgently needed. Sanitary duties are not performed or sanitary improvements carried out, for reasons which we have often pointed out, and have again alluded to in an article elsewhere in our columns. A government inquiry in Dublin would prove that in some matters our Corporation are not a whit better or more competent than representatives in Limerick or Ennis. Plenty of neglect, plenty of filth, bad sewerage or drainage, or none at all, bad water, and other bad things are shown to exist in the south.

Dr. O'Sullivan, in his evidence, gives a sad picture of sanitary neglect in Limerick. He said he ceased to act upon the sanitary committee of the corporation because he found that they were not discharging their sanitary duties, and that it would be a mere waste of his time to go there, as they were "humbugging the public." In Ennis, Mr. Green (who is a J.P. and chairman of the town commissioners, and also chairman of the gas company) said in his evidence that Ennis had no public supply of water, and, with the exception of two pumps, the people have to use the water of the river, which was polluted with sewage. In Ennis there is no corporate property, like in Limerick and other towns, and this may be urged as an excuse for the commissioners not doing more, but the rates are 8s. 4d. in the pound, and gas 8s. 4d. per 1,000 feet. Limerick, on the contrary, has corporate property, like in other places not a hundred miles off, and the corporate property is mortgaged to a great extent. The watch system in Limerick is a complete and disreputable farce. We repeat, as we have often before repeated, that some of the greatest offenders against the sanitary laws in several of our town councils are the members thereof. We hope the ratepayers will, during the continuance of the Government inquiry, take an intelligent interest in matters that not only concern their pockets, but vitally concern their health.

THE BUILDER ON LONDON HOUSE CONSTRUCTION.

IN last week's *Builder* an admirable article appeared on "House and Home in the Heart of Town," which is well worthy of attentive perusal. Many of the remarks of our contemporary in regard to London houses formerly and still built for the residence of one family, but fated in the course of time to be occupied by several families, for which they are unfitted without structural alterations, are also applicable to numerous Dublin houses. There are several streets of houses north and south of the city, formerly the residences of the nobility and gentry, now let in tenements. No alterations have been made by their owners to make them more suitable for tenement occupation, and, as may be expected, their sanitary condition can be better imagined than described. Many of them were well built, but they are subject to such wear and tear on the part of their various tenants that they are in many instances in a ruinous condition—in fact a great number of them, despite their solid brickwork, are "rookeries" and fever nests, and sometimes worse. We quote the concluding paragraph of our contemporary's article:—

London, neither metropolis nor capital in the ordinary meaning of either term, is become an ever-extending province of buildings; and, in its centre, it has been the invariable rule for many years—for half a century, at least—for the vast majority of the small, ill-built houses, each intended for the accommodation of one family, to be occupied each by two, three, or more groups of people. Yet, in the new houses, building speculators, almost without exception, continue to superpose two or three rooms over two or three rooms, with a kitchen below the ground level, and two servants' bedrooms in the roof. Like the old, the new building is almost invariably arranged for the home of a single family; and it is taken for granted that the several groups who must inevitably inhabit it will share not only the house but the home,—which never by any chance takes place. We are not referring here to those classes of the popula-

tion in Central London for whose benefit a recent Act of Parliament was passed, and is now in operation. We urge the remodelling of the ordinary house,—of the "speculating builder" class, and of the type usually to be found on the London estates of noblemen,—with a view to accommodating those numerous families and groups who at the present moment are compelled to share indiscriminately a house originally built for the use of a single family; and who, perforce, inhabit "lodgings," which possess all the disadvantages, and none of the advantages, of those private and economical residences abounding in the heart of such capitals as Paris, Vienna, St. Petersburg, Brussels, and Berlin.

PIECEWORK, DAYWORK, AND ARBI- TRATION.

AT the Trades Union Congress, held during the month just closed at Newcastle-on-Tyne, among a number of other subjects discussed was that of "Piecework." Mr. Knight, who moved the following resolution on the subject, made a forcible speech. We subjoin the resolution and a short summary of the discussion:—"That this congress observes with regret that in a large number of cases piecework is a fruitful source of trade disputes, and most injurious to workmen through employers, managers, and foremen making the same a cloak to reduce wages, and introducing sub-contracting, with its attendant evils. The system also offers in many instances an inducement to workmen to lose time, and removes the security with reference to employment which they enjoy under the daywork principle. We, therefore, pledge ourselves to use our utmost exertions to reduce its applications and restrict its extension in all those places where these evils exist." Mr. Kennedy (Glasgow) seconded Mr. Knight's resolution, and styled the money earned by piecework as "blood money." Mr. Townley (Salford) supported the resolution, and quoted the dictum of the Bishop of Manchester, that "piecework is scamp work," and added that in his opinion piece-workers and their apologisers were nothing but scamps. Mr. Dimberline (Sunderland) also supported it, and dilated at great length on the miserable condition to which workmen were in old age reduced by drink and piecework. Mr. Memmell (Sheffield) moved an amendment declaring it inexpedient for congress to make any declaration on the question. He admitted that piecework had its evils, but so also, he contended, had day-work, and he for one would not approve of a system which tied the hands of the more skilful or industrious workman, and brought him down to the level of the lazy and incompetent. Mr. Bailey, tailor (Preston), seconded the amendment, and said that it was absolutely essential to have piecework in his trade. Mr. Adam Weiley, Alliance cabinet-maker (London), supported the original resolution, and said that although piecework might be beneficial to a few men, its general adoption would be deeply injurious to the ultimate interests of the working classes of the country. Mr. Odger (London) supported the amendment, and retorted upon Mr. Dimberline that if the high wages of piecework induced drunken habits and ultimate misery, then working men ought to accept whatever wages masters offered. Ultimately both resolution and amendment were withdrawn, the congress passing to the next question. Mr. Storar moved a resolution in favour of boards of conciliation and arbitration. Mr. Gill (Aberdeen) seconded the motion. Mr. McDonnell (Gateshead) was in favour of arbitration and conciliation, but he believed the court ought to be open, and he moved an amendment to that effect. Mr. Townley (Salford) thought the men were in certain cases to blame, and cited one or two where they had repudiated the arbitrator's award. Mr. Williams (Birmingham) seconded the amendment. Mr. Dimberline supported it. Mr. M'Ewen followed on the same side, and Mr. Storar accepting the principle of the amendment, the resolution was unanimously adopted.

THE CITY OF NEW YORK.*

(Continued from page 268).

III. THE NORTH AND EAST RIVERS—THE HIGHWAYS—THE MEANS OF COMMUNICATION.

WE have said that New York is built on the Island of Manhattan, surrounded by the waters of the Hudson and East river. This latter is, however, in reality an arm of the sea, which separates Long Island from the mainland, and which at another place is united to the Hudson by the "Harlem River." New York, with its population of more than a million souls, is already too much compressed on its island. In 1873 the municipal boundary was extended over the Harlem River, so as to include the neighbouring county of West Chester; but New York will not stop there, but proposes to unite with the city of Brooklyn, which holds the same relation to Long Island on the East River as Tarascon in France does to Beaucaille on the Rhône. Brooklyn, "the city of churches," has itself more than half a million inhabitants. As living is cheaper there than in New York, it is the residence of a great number of business men, who every morning cross the ferry to Wall-street or its vicinity, returning home in the evening. It is also at Brooklyn that Greenwood, the principal cemetery for New York, is situated, which deserves to be mentioned as one of the most beautiful in a country, where people have well learned how to transform their burying grounds into charming gardens and umbrageous parks.

Not content with all the ferries which unite the sister cities, New York and Brooklyn are now jointly engaged in constructing over the East River the most gigantic suspension bridge that engineering art has ever conceived. The piers of this bridge, 85 mètres high over the water—a height greater than that of the towers of Notre Dame of Paris over the ground—were commenced in 1870, and are nearly completed. The distance between them is about 500 mètres. The span of the two suspension bridges thrown over Niagara is one-fifth less, and as yet no other bridge of that class in the world can compare with them.

The engineer who conceived the bold project of bridging the East River was Mr. Roebling, who had previously carried out with success, in face of unheard-of difficulties, the works at Niagara. When some fears were expressed to him, as to the durability of his last bridge, having regard to the enormous length of roadway to be suspended, he replied, "I could construct one of 1,000 mètres span, and the calculations prove that it would last an indefinite time." This eminent man was unfortunately removed by death in the midst of his great works. It is certain accidents have not occurred to any suspension bridge in America, such as have taken place in France, and that we are wrong in rejecting, for the last twenty years, so economical a system of construction, which often possesses advantages not to be otherwise attained. By a system of cables well secured and combined, it is possible to construct a suspension bridge, capable of resisting the force of the most terrible hurricanes, as the example of the Niagara bridge proves. The sole danger to be feared, and it is easy to avoid it by strict regulation and supervision, is that of the regular vibratory movement of a great number of men or animals, passing at one time. It is said that the disastrous catastrophe of the bridge of Angers, which in 1850 threw such a gloom over France, by drowning hundreds of poor soldiers in the waters of the Loire, could have been easily avoided. The height of the roadway of the bridge over the East River above the water is to be 40 mètres, so that the largest clipper can pass under the bridge with all sails set. The total length of the bridge, which will start from the City Hall Square of New York, and lead to a central point of Brooklyn, surmounting in both cases the houses on the banks of the river, will be 1,800

mètres, including the two approaching viaducts. The inhabitants of Brooklyn calculate, however, that it will be easier to take the ferry, when one wants only to get from one bank to the other. As to the total width of the roadway, that will be 26 mètres or about the width of a street like Broadway; this dimension will permit the construction on each side, of a tramway, and carriage way, with a footway in the middle raised three mètres. The foot passengers will be able to enjoy from the height of this belvedere, twice as high as a five storey house, the fresh breeze, and a most enchanting prospect. The foundations of the piers have been laid by means of compressed air, by a process equally bold and ingenious; they sink to a depth of 25 mètres under water, through the sands to the solid ground, which carries bravely, as for eternity, these gigantic and massive towers visible for miles.

Ascending the East River, beyond Brooklyn, we observe to the left, on the island of Manhattan, the innumerable streets of New York, which terminate on the bank of the river; to the right, the agglomerations, more and more populous and crowded, of Williamsburg, Green Point, Hunter's Point, Ravenswood and Astoria, all which will soon form but one large city. Here and there are still to be seen elegant cottages, dispersed in the midst of verdure and flowers. Upon the river itself succeed the islands of Blackwell, Ward, and Randall, where are happily located, in the middle of the water and fresh air, in brick or granite buildings of appropriate style, the penitentiary, lunatic asylum, home for emigrants, asylum for inebriates, and various other houses of refuge—in a word all the institutions for charity or correction, which the city of New York has honourably taken under its protection.

Between Ward's Island and Astoria is a channel called Hell Gate. It is strewn with rocks, which present a formidable hindrance to navigation and give rise to strong currents. Since 1870 extensive mines have been opened under water, for the purpose of blowing up these rocks. These daring works will be soon completed, all the mines will be set fire to at the same time by means of the electric spark, a tremendous explosion will be produced, heaving the water into whirlpools, and breaking the rocks into fragments, which will be raised by means of a steam dredger, and the channel will be completely free. Then the steamers from Europe can adopt this route; as being the safest and most rapid, and arrive at New York by the East River, saving thus a couple of hundred miles (that is to say nearly twenty hours) off the present passage. This is an economy of time worth taking into account. The Americans are accustomed to this class of sub-marine works, and they have already blown up by similar operations, successfully and rapidly carried out, the rocks which hindered the entrance of the ports of Boston and San Francisco.*

The canal of Hell Gate passed, the East River opens into a branch of the sea called "The Sound," which unites further on with the ocean. On the opposite side, above the islands of Ward and Randall, commences the Harlem River, which is but a smaller branch of the Hudson. If we descend the great river, parting from this point, we perceive on the left bank New York, with the prolongations of the streets that we have already referred to, and on the right bank Fort Lee, below which extend cultivated fields, then the suburbs of Weehawken, and Hoboken, peopled by Germans, and then Jersey City. Here all along the river are the docks, the workshops, and other station buildings of the Erie railway. Jersey City faces "the Empire City" across the Hudson as Brooklyn does across the East River. The Hudson separates here the two neighbouring states of New York and New Jersey. The space which extends between the point of Manhattan

Island, and Jersey City, forms the mouth of the great river. Its waters, which unite insensibly with those of the sea, form a magnificent inclosed bay, the most beautiful as well as the safest in the world, where all the fleets of the world could assemble and perform their evolutions with ease. This bay communicates with the ocean only by a confined passage called "The Narrows," which is bounded at one side by Long Island, with its low and sandy shores, and on the other side by the verdant and woody Staten Island, with its superb residences. Staten Island is the favourite summer resort of those whose business affairs occupy them during the day in the great city, and who cannot go far to seek for the quietness, the shade and the freshness, which the torrid heats of New York render indispensable.

On either side of the Hudson are ranged the piers or quays, where steamers lie, each in its proper berth. On the Jersey City and Hoboken side are to be found, amongst others, the famous steamers of the Cunard and White Star companies, which sail from Great Britain, then those of Bremen and Hamburg. On the other side are the piers of the Inman, Guion, National, and Anchor companies, also those of the French Transatlantic company. The ocean has become as a great river between America and Europe, traversed without ceasing by steam vessels. Six or eight European steamers arrive at or depart from New York every day. Havre, Liverpool and the German ports are only nine days' sail from America.

On the same side as last mentioned are moored also the magnificent steamboats which ascend the Hudson as far as Albany, and those which go by the East River and Sound to Boston, or else as far as Newport and Providence. These veritable floating cities may be counted among the largest and most luxurious steamers afloat, and deservedly enjoy throughout the United States a high degree of popular esteem. Here also are the more modest steamers, which touch at the Atlantic ports of the Union, as Charleston and New Orleans, or go further to Havannah, Mexico, and the port of Aspinwall or Colon where is the terminus of the Panama Railway. On the other side, upon the Pacific, wait the gigantic steamers which perform the service to California.

The berths of the steamboats of the Mexican line are close to the point of Castle Garden. In turning this point we re-enter the East River, crowded with sailing vessels, clippers of four masts hailing from all parts of the world. The waggons which come and go carrying heavy loads, the accumulation of merchandise that is being embarked or discharged, the omnibuses, and carriages, which attempt to make their way through the blockade, the noisy crowd of passengers, sailors of all nations, hawkers of every description, a world of people, drunk or swearing, the interminable lines, before a quay already too narrow, of drinking bars, taverns, and miscellaneous shops, the gateways of the ferries, pouring out every minute their thousands of busy passengers, who elbow and hustle you; all this composes a spectacle worthy to be seen, but not at all convenient to see. The quays of the Hudson, not less animated, are more accessible, because there each ship has its dock, a vast enclosed space, shut in with boarding, where luggage can be examined at ease. Upon the East River, below the mercantile port, are the dock-yards for the construction of steam vessels. It was here that was launched in the month of September, 1874, the City of Pekin, the largest steamer yet constructed in the United States. After the first trial trip, to which General Grant was invited and took part, she went to double Cape Horn, touch at San Francisco, and make regular voyages on the Pacific, between California, Japan, and China. At Brooklyn is the navy-yard, one of the arsenals of the union, where are constructed, moored, and repaired, the celebrated monitors, and other American ships of war.

The entire world is tributary to the port of New York, and sends its productions to it

* From the French of M. L. Simonin, in the *Revue des Deux Mondes*. Translated, with Notes, for the IRISH BUILDER by William Fogarty, F.R.L.S.A.

* September 25th, 1876.—The Intelligence has just arrived of the successful carrying out of these operations.

in exchange. Better still, all the States of the Union send the bulk of their products to this privileged place, which from hence are disseminated over all the globe. It is here that the south sends the bulk of its cotton and its rice; Pennsylvania, its coal, iron, and petroleum; Kentucky, Virginia, and Maryland, their tobacco; Lake Superior, its copper; Missouri, its lead; Wisconsin, its zinc. The New England States bring to New York the products of their manufactures and fisheries, and even their ice and fruit. Then come the Western States, Illinois at their head, with their grain, flour, saltmeat, timber, the products of their gardens, dairies, and farm-yards. What more? It is here that the mines of California and of Nevada send their ingots of gold and silver. New York sends in its turn to all these states the fashions and the textile fabrics of Europe, the wines and liquors of France, the coffee of Rio or of Java, the sugar of Havannah, the tea of China and Japan, the wool of La Plata and Australia, and the spices and aromatics of the Indies. New York is the grand emporium, the immense storehouse of all North America.

During the fiscal year commencing on the 1st of July, 1872, and ending on the 30th of June, 1873, the last of which the Chamber of Commerce has sent us the Government statistics, there were entered in this port in round numbers 5,700 ships, of an aggregate burden of 4,300,000 tons, besides about 1,000 ocean steamers, of a capacity of 2,460,000 tons. An abstract of the clearances gives nearly the same figures. During the same year all the ports of the United States had received a total of 8,200 ships, carrying 12,000,000 tons. These premises lead to two conclusions of the highest interest; one that the tonnage of the port of New York is more than a third of that of the whole Union, and this explains at once the commercial importance of the place,—the other that the tonnage of the steamers that frequent the port is more than a half that of other ships, which exhibits the same economic phenomenon, as has been apparent in all mercantile navies for several years past, namely that steam is tending more and more to replace sails everywhere.

It is to be noted that among the steamers which perform the service between New York and the European ports, none are American; and that among the ships which frequent the port of New York, foreign flags preponderate. This was not the case until the United States had adopted, under pretext of favouring their own commerce and industry and paying the debt of their last war, a rigid tariff of protection and even of prohibition. The adoption of this antiquated policy has cost dear, although thereby, it must be admitted, many industries, such as the weaving of stuffs and the manufacture of steel and copper have been developed with a surprising degree of activity and success. Against this the price of manual labour and of raw material has been raised so high throughout the whole Union, that not only no trading steamer, but even no sailing ship of large tonnage can be built economically, so as to come in competition with those of Europe. The dock-yards of the Union, but lately so animated, now stand still for the greater part, and the Americans, those "carriers of the sea," who possessed but yesterday the most formidable marine of the globe, sailing most speedily and economically, have surrendered, perhaps for ever, the first place to England.

The incessant movement of goods, carried in such considerable quantities over points relatively confined, and the absence of a grand central dock, provided with suitable basins, such as are to be seen in London, render the proper pavement and repair of the quays and streets of the lower part of the city of New York matters of great difficulty. It has to be added that an unscrupulous municipal government has, to a large extent, impudently seized upon the money of the tax-payers to divide with the "politicians," by whom it was elected,

and, on this account, there has been sent into penal servitude more than one superintendent of city works. Those who have not seen the sad state of the quays of the Hudson and East River and all the neighbouring streets, and even of a large number of streets in the heart of the great city, where the inhabitants are not rich enough to take on their own charge the care of the footways and side walks, can have no idea of the shameful neglect to which the highways of the "empire city" are abandoned. "New York spends more than Paris in the repairs of its streets," said the *Herald* recently; "but is a hundred times worse paved than Paris." What would it be if the journal, pursuing its inquiry, should speak of the two markets which disfigure the great city—the meat market (Washington), on the quays of the North River, and the fish market (Fulton) on the East River? In summer these are two centres of pestilence.

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

THE Rev. Francis Molloy, a member of the Franciscan Order, among other works written and compiled by him abroad, was the author of an Irish Grammar—"Grammatica Latina-Hibernica, nunc Compendiata, Romæ 1677, in 12mo." It would be interesting to know if Molloy's Grammar was the first of its kind printed. The author makes no mention of any previous Irish grammar. Dr. Molloy's work is inscribed to Cardinal Camilli, and he alludes to the proscription of the Irish language by the English Government, a historical fact apparent enough by a statute of the 28th Henry VIII. Molloy's Grammar is well worthy of reference by Irish students. He deals at great length with the letter H, and discourses also on two kinds of Ogham, one calling the syllables of words by the names of letters, diphthongs, and triphthongs; the other placing consonants for vowels, and was of three kinds. It is worth while comparing Molloy's remarks on the construction of the Irish language, and in reference to Ogham with O'Flaherty's dissertation on "Irish Letters" in a chapter specially devoted to that subject in his "Ogygia." Edward Lhwyd, the Welch antiquary, has left us some remarks upon Ogham in his accounts of languages, histories, and customs of the original inhabitants of Great Britain. Lhwyd travelled several times over the British Island, and among a kindred Celtic element on the Continent, and he collected much information of interest to Irish scholars as well as to the Cymri and the Scottish Gael. We believe Lhwyd at his death in 1709 left in MS. a Scottish or Irish-English dictionary among other proofs of his untiring industry. There is an epitaph in (if not now defaced) the Church of Athlone, to the effect that "This monument was erected by the Right Worshipful Matthew De Renzie Knight, who departed this life 29th of August, 1634, being at the age of fifty-seven years. Born at Cullen, in Germany, and descended from the family and renowned warrior, George Castriot, alias Scanderberg, who, in the Christian wars fought fifty-two battles with great conquest and honour against the great Turk. He was a great traveller and general linguist, and kept correspondence with most nations in many weighty affairs, and in three years gave great perfection to this nation by composing a grammar, dictionary and chronicle of the Irish tongue, in accounts most expert and exceeding all others for his great applause. This work was accomplished by Matthew De Renzie his son, August 29, 1635."

Is there anything further and particularly known of this Matthew De Renzie while resident in this country, or of his grammar, dictionary, or chronicle? Do the above works exist still in MS., or were they ever printed? We do not know the exact year Molloy died in, but De Renzie's death occurring upwards of forty years before the publication of Molloy's Grammar, it would appear

that the grammar of the former was first in the field. Of printed Irish dictionaries or grammars before Molloy's time we do not recollect reading of any; but, doubtless, there were several tracts or glossaries in MS. treating of the old mother tongue, dating back to the time of "Cormac's Glossary" and much earlier. In a nation where annalists, chroniclers, and hereditary genealogists and bards were numerous, the completion of glossaries and other educational requisites were not left for centuries unthought of. Who can tell how much we have lost by fire and pillage before the type of Guttenburg or Caxton multiplied works and evidences of works in thousands, leaving us less to fear for the future, though much to regret in the past.

Poor Fishamble-street theatre, with its century and more of memories, where Handel and Arne first appeared in Dublin, we remember it on its last legs, but legs, body, and head are now gone for some years. It passed through many phases and variations. A music-hall, a meeting-house, a theatre, &c. One of its last transformations in name was, we believe, "Prince Patrick's Theatre"; but it did not gather strength under the appellation, and, though some of the acting was good, the audiences, except on odd nights, were poor, and the receipts the reverse of cheering. Still for sake of old times and sunny bygone transactions, we had a kind regard for poor old Fishamble-street theatre, perched upon the brow of the hill of a most historic Dublin street—a street that in the present century we believe, gave birth to the gifted but unfortunate James Clarence Mangan. One of the memorable incidents or tragedies connected with the theatre was the falling of the Grove Room on the 7th of February, 1782, the year of the legislative independence of Ireland, as established by Grattan. Several persons were either killed or bruised on this occasion. During the eighteen years of the Irish Parliament the "Private Theatre," Fishamble-street, was often used for fashionable performances, in which members of the aristocracy, public men, and military officers were the *dramatis personæ*. In the month of May, 1793, "The Beggar's Opera" was acted here, as also the farce of "The Irish Widow." The personators of "the gang" in the opera were Lord Thurles, Mr. W. Butler, Mr. Holmes, Mr. Vernon, Mr. Herbert, Mr. Rochfort, Lord Cunyngham, Mr. Whalley, and Mr. Talbot. The names still point to representatives of well-known families. We are inclined to believe that the Mr. Herbert mentioned was the author of the book known as "Irish Varieties," which treats of many old customs and theatrical associations connected with Dublin and other Irish places; and perhaps the Mr. Whalley mentioned was no other than the well-known Jerusalem Whalley, the builder, owner, and resident of the house in St. Stephen's-green now occupied by the Catholic University. A Captain Ash acted Macheath; a Captain Brown, Peachum; and a Captain Stewart, Lockit; Mat o' the Mint being personated by Mr. H. Butler. In the *Anthologia Hibernica* for May, 1793, there is a theatrical criticism of the chief actors in "The Beggar's Opera" and "The Irish Widow," as acted in the "Private Theatre," Fishamble-street, which is amusing in its way, if not very instructive. The criticism is prefaced by the following introductory remarks, which we think it not amiss to quote, as they illustrate the spirit of the time:—"The theatre has even borne a distinguished place in the department of polite literature; it has also been the subject of panegyric and criticism. However, the snarling critic or the placid panegyrist have not always adhered to fair report—both, probably actuated by spleen or friendship, take up their pen, and, from the currency of the day compose eulogy or defamation. The editor of the *Anthologia* has laid down a rule of conduct that the public alone must develop. A cautious adherence to truth is necessary in every department of life, and especially in a periodical publication, the circulation of which

spreads round this and its sister kingdom. The following observations are given from the first authority, and the fashion of Fishamble-street Theatre will, we trust, render this sketch agreeable to our numerous classes of readers, and be allowed by the noblemen and gentlemen who are mentioned to be candid and fair."

In the same year but previous "The Rivals" was performed "at the new private Theatre, Fishamble-street." On this occasion there was a brilliant audience of rank and fashion. The *dramatis personæ* was as follows:—Sir Anthony Absolute, Mr. Lyster; Captain Absolute, Mr. Ashe; Falkland, Mr. Witherington; Bob Acres, Mr. Howard; Fay, Mr. Hum Butler, Coachman, Mr. Vernon; [Clontarf], Jacob Gawkey; Captain Hamilton; Sir Lucius O'Trigger, Mr. F. Jones, [Query, Buck Jones]; the women were represented by Miss Campion, Mrs. Dawson, and Mrs. Garvey. Here is a description of the theatre on the night of the representation of the "Rivals." "The house looks splendid from the grandeur of the decorations, which are white and gold. The drapery over the boxes is white satin with gold fringe. A beautiful scene is used for the curtain; upon it is painted Apollo's lyre with sprigs of laurel and oak, ornamented with a glory in a most pleasing coloured sky. The motto is—'For our Friends.' The servants' liveries are elegant—brown coats, richly laced with silver down the seams, laced scarlet waistcoats, and small clothes, and their hairs dressed with bags." We must exclaim again, poor Fishamble-street, thy glories have long departed, but the curtain alone has not fallen alone for ever on thy stage, but on others of predecessors, compeers, and contemporaries, to wit Werburgh-street, Aungier-street, Capel-street, Smock-alley, Crow-street, Abbey-street, and other theatres, amphitheatres, and music-halls of the old and modern city.

It may not be amiss to add here that the site of old Fishamble-street Theatre and all the adjoining premises for some years back form the yard, workshops, and warehouses of Messrs. Kennan and Sons, an old-established, respectable, and creditably-sustained Dublin firm of tool makers and iron workers, dating back into the last century. The originator, Thomas Kennan, was established in business as a jeweller at 19 Fishamble-street in the days of the Irish Parliament, and subsequently as a mechanical tool dealer and maker. The old firm may soon celebrate its centenary.

In our young days it used to be a proverbial saying that the Lord Mayor and the fleas went out or retired on Michaelmas Day! The Lord Mayor's Day under the "Reformed Corporation" is New Year's Day, but in London it is in November. It will be interesting to go back upwards of eighty years ago in Dublin, or to the time of the mayoralty of William James, and quote the magazine or newspaper reports of that day concerning the surroundings of the incoming mayor. Under the date of October 1st, 1793, we read—"Yesterday, Alderman William James was sworn into office at the Castle, and invested with the insignia of the important office of Lord Mayor for the ensuing year, after which he proceeded to the Tholsel [in Skinner's-row], where Meredith Jenkin and John Gifford, Esqrs., were sworn into office as high sheriffs, and Arthur Guinness as sub-sheriff, for the same period. In the evening his Excellency and several persons of distinction dined at the Mayoralty House, where a sumptuous entertainment, abundant in every delicacy, was provided. The Lord Mayor's liveries, as also the sheriffs, are white lined with scarlet, most richly and fully laced with scarlet and white livery lace, gilt buttons, with a profusion of silk tassels and gold-laced hats; and the four grooms of the chamber are dressed in fine purple cloth richly laced with gold. The Lord Mayor's coach is bright green, highly varnished, richly ornamented with plated work, with heraldry handsomely emblazoned on the front, back, and side doors; the lining and hammer-cloth white, highly adorned with scarlet and white

lace and fringe. The carriage is dark green picked in with sky blue, orange, and white, and wreathed with gilt ribbon-work; the supports of the boot and footman's stand elegantly carved and gilt. Sheriff Jenkin's chariot is dark chocolate colour, with much plated work, the arms plain and small, the hammer-cloth the same as the Lord Mayor's, the carriage and wheels full green picked in with orange and blue, and painted ribbon work. Sheriff Gifford's chariot is pearl blue; the carriage and wheels dark brown, picked in with orange, blue, and white." Concerning the selection of Alderman James for the office of Lord Mayor a stormy discussion had taken place earlier in the year [April, 1793] at the old Exhibition Room, William-street. The noted John Binns fiercely opposed the appointment of James, and in doing so he said he was instructed by his constituents. He said he was opposed to any police commissioner being elected as a lord mayor. A Mr. Ewing and a Mr. Pemberton also strongly opposed Alderman James. Binns declared the Commons had often before rejected him, and therefore it would be inconsistent now to elect him. James had made himself obnoxious by endeavouring to transfer the election of lord mayor from the citizens to the Privy Council. He, however, had sufficient influence at the Castle to secure his election, although he apparently despised or slighted the ordinary mode thro' which the honour of mayoralty was obtained. A ballot called for at the end of the discussion showed that there were 72 white beans and 47 black beans, so James secured his election by a majority of 25. The election proceedings and surroundings of the mayoralty of Alderman William James, Lord Mayor of Dublin in 1793-4, is well worthy of re-perusal even at this date, and might be made, were we politically inclined, to "point a moral and adorn a tale." H.

"THE TWIST."

(A SONG FOR JOINERS.)

Air—"The Young May Moon."

Who has not heard of the Twist, the Twist,
Whose charms no "Chip" can resist, resist,
Whose lines and whose moulds,
Such beauty unfolds,
That all are in love with the Twist, the Twist.

There's science and art in the Twist, the Twist,
If you know how to turn the wrist, the wrist.
'Tis the way you incline
In drawing each line,
You work out the shape of the Twist, the Twist.

Peter Nicholson's lines of the Twist, the Twist,
Like old Price and Pain's are all mist, all mist.
Hear it, Dublin and Cork,
'Tis that clap from New York,
Who Banagher beats with his Twist, his Twist.

'Tis Bob Riddell's plans of the Twist, the Twist,
Which shows the true curves that exist, exist;
His "wreaths" are the best
From the east to the west,
For hand-rails in need of the Twist, the Twist.

Come, brother "Chips," let the Twist, the Twist,
Be our toast to-night, and each fist, each fist,
Be grasped with good will
By all Joiners whose skill
Can mount higher flights than the Twist, the Twist.
KIT.

BRIDGING THE LIFFEY.

WE have on several occasions during the last sixteen or seventeen years discussed all the *pros* and *cons* relative to the remodelling of Carlisle Bridge and the erecting of another new bridge further down the river. We spoke of the Beresford-place or Custom House site, as also of the Commons-street approach, and pointed out the advantages and disadvantages pertaining to each. The subject of a new bridge or bridges over the Liffey further down the river, to meet the growing traffic of the modern city, is always cropping-up, and we see that good must result from discussing the question again and again. Mr. H. O'Hara, C.E., who has

already written on the subject, takes up the text again, and appears to go in for the construction of two new bridges. Speaking of the site of one of the desiderated bridges, he thus writes:—

"It should be placed so as to connect Creighton-street with Commons-street, as the traffic in connection with the shipping is most dense there, and the two streets are in a right line and of ample width for a commercial roadway. The removal of a few cottages known as Leary's-place would continue Creighton-street into a line with Sandwith-street, and then, with the assistance of the bridge, there would be a tolerably direct road between the Grand Canal docks and the eastern end of Great Brunswick-street to the Spencer Dock, Seville-place, and the North Strand. You will perceive that by the adoption of this plan the only demolition required to effect that line is the removal of a few cottages which are valued at only £1,000. An additional approach on the south side to the Commons-street bridge, and one likely to be made much use of may be opened by connecting Lombard-street and the quays by a new street. Westland-row and Lombard-street are in line, and that line continued to the bridge I propose would be a great advantage to carriers and pedestrians. This latter route can be readily obtained by removing the houses in Townsend-street which are visible from Westland-row, and those at the angle formed by the meeting of Creighton-street and the City-quay, and clearing the intervening store yards. A street 65 ft. wide and 528 ft. in length would then be formed, having a frontage of 1,036 ft. for new houses. That street may be made without any cost to the city. The full value of the lot is £5,423, and would probably be purchased for less. The ground rents of the new houses erected on both sides of the street would return at last 5 per cent., and the sale of the old materials would cover the cost of paving the roadway. If that small expenditure be undertaken it will prove a wise outlay, as, in addition to the convenience of the public and the improvement of an important quarter of the city, the new houses, when built and occupied, will yield £500 yearly in taxes.

"Communication between the north-eastern and south-eastern quarters of Dublin is urgently needed, as the trade and population of those quarters are on the increase; but I believe that one bridge, and that one placed opposite Beresford-place, will be but partial relief to existing wants.

"To drive through Westland-row, Lombard-street, and the new street over the commodious new east bridge direct to the North Strand or North Wall would be an advantage over the present circuitous route to those industrious people whose time is money. And, in reference to the other bridge, to clear a way through the foul slums that cluster around Townsend-street and lay open in their stead a spacious street, down which the beautiful façade of the Custom House would be seen to advantage from Great Brunswick-street, would be at least an architectural improvement. If it be said that on the score of economy it will be necessary to make one bridge answer every purpose, the reply to that observation is that what is meant by economy is very frequently misunderstood. It is not economical to travel or carry a heavy load four miles when the distance between the places of departure and arrival is but one mile, nor is it economy to retain the majority of the working classes in squalid rookeries contributing but little to the municipal revenues, when a moderate expenditure would establish in their place houses of a superior class, the rates from which would vastly augment the amount of the revenues.

"If these suggested improvements be favourably considered and carried out they will afford greatly increased facilities for the free circulation of the city traffic. The Commons-street bridge will have two fine approaches on the south side; one for heavy traffic through Sandwith-street and Creighton-street; the other for lighter traffic through Westland-row and Lombard-street. Having two bridges, one at Creighton-street, and the other opposite to the Custom House, the block of vehicles and the dangers to pedestrians, which at nearly all hours exist upon the quays, will be so counteracted that the traffic over each bridge will be about equally distributed."

It may be as well to remember that the remodelling, improvement, or enlargement of Carlisle Bridge, though a subject of agitation for more than a quarter of a century, is not yet commenced. Neither is the bridge so often suggested, and now at last projected by the Port and Docks Board. The Dublin public are still fated to listen to an enormous amount of driftless discussion at the hands

of our municipal authorities on the head of the enlargement of Carlisle Bridge and the erection of the first of the proposed new bridges further down the river. The proposal of a third bridge is not unlikely to give rise to discussions that will last into the twentieth century, if municipal improvements in the future are to be mismanaged as they have in the past. We trust, however, that our Corporation will be remodelled in the name, and that many city swamps will soon be superseded by salutary social bridges.

CORRESPONDENCE.

THE HEALTH AND SEWAGE OF TOWNS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—In the general interest of public health, the council of the Society of Arts appeal to the inhabitants of the metropolitan districts, and to the public generally, to send to the society evidence of cases showing the various evils which have occurred from the present imperfect system of the drainage of houses. At the Conference on the Health and Sewage of Towns, lately held at the society, and attended by numerous representatives from various towns and localities in the kingdom, the importance of greater attention to the house drainage as distinct from the sewerage was especially brought to the notice of the society.

It was pointed out that however good the general sewerage might be, unless the drainage proper of the house and its connection with the sewers were carefully planned, executed under due supervision, and maintained in proper order, there was imminent danger of typhoid and other diseases from the imperfect exclusion of sewer gas.

The council are well aware of the extensive powers which are given by Act of Parliament to vestries in the metropolitan district to deal with this matter. As regards buildings erected and in course of erection since 1855, the date of the Metropolis Local Management Acts, no doubt a large amount of supervision is exercised; plans of the house drainage are frequently deposited, and are open for inspection to the ratepayers. But the powers of the local authorities are rather remedial than preventive of disease, and are more or less imperfectly exercised. The evidence already collected shows that in most of the metropolitan parishes, a small proportion of the total number of the houses in them has been properly dealt with, and consequently the plans of house drainage are, on the whole, comparatively few even in parishes on the outskirts, where a considerable extension of building has taken place in the last few years. Neither owner, nor lessee, nor intending purchasers, as regards houses built previous to 1855, unless in some few exceptional and accidental cases, has any means of ascertaining whether the house is or is not well drained, or properly connected with the sewers, and, if defective, how or in what direction amendment is to be sought. It is with a view to remedy this admitted evil, which reduces the usefulness of the main sewers on which millions have been spent, that the council of the Society of Arts, in the interests of improved Public Health, have taken up this question. They have already memorialised the Metropolitan Board of Works on the subject, and they propose to address the president of the Local Government Board in reference both to the metropolis and to localities in other parts of the kingdom. The council have sought for information and suggestions from the various metropolitan authorities having such matters in charge. They appreciate the valuable labours of these bodies, but they desire to draw public attention to what it appears to the council needs further action on their parts, and they suggest that Parliament should be moved, if need be, to confer additional powers and responsibility on local authorities.

Under these circumstances the council invite communications both as to cases of evil arising under the present state of things in the metropolis and in the country generally, as well as any suggestions for remedy, and they will be glad to receive any such communications before October 20 next.

P. LE NEVE FOSTER, Secretary.
Society of Arts, Adelphi,
London, W.C., September, 1876.

LETTERKENNY, AND ITS WATER SUPPLY, &c.

THE waterworks of this small and prosperous town in the County Donegal have been for some months completed, and an abundant supply of this most necessary element has been afforded the inhabitants during the very trying dry season experienced this summer. The water is taken from a spring in one of the hill sides about two and a-half miles from the town, and is received into a reservoir containing one month's supply, and at an elevation of 450 ft. over the town. A relief tank, holding two days' consumption, breaks the pressure, giving a working head of 150 ft. This tank is placed in a garden at the workhouse and within its walls, and from thence distributed through the town and streets. Ten fountains have been erected, and hydrants, &c., for fire and watering purposes, have been placed in convenient situations. Though the population barely numbers 2,000, the supply is calculated for 3,000, and it can, at a small expense, be very largely increased, should such hereafter become a necessity. All the works and details, &c., have been carried out from the designs of Mr. F. A. Doyle, C.E., Kingstown. The estimated cost was near £1,700, and the contract was let at £1,790. A very small percentage of extras arose during construction, but the Board of Guardians were enabled to spend £800 more than they anticipated, and thus large extensions and additions were made, the total cost of the finished work amounting to £2,200.

Mr. Stormont, of Letterkenny, was the contractor, and from his practical experience and ability great confidence was felt as to the works being well carried out, and in which he has not disappointed the board. The best materials and from the best founders of the day have been used in the works, and in every other respect, though small, the work is as complete as the "Vatry" in Dublin.

Very great credit is due the board of guardians for at once utilising their powers under the Sanitary Act; and their energy and vigor in pushing on these most essential sanitary improvements are worthy of all praise, one year only elapsing from the letting of the contract till its completion; and there is no doubt the benefits derivable from the supply must be largely felt, and cannot be too highly appreciated. The small amount of taxation due to their introduction (at which even still some grumblers are to be found) will in time, from many causes easy to foresee, be materially decreased.

Letterkenny, from its position and situation, is fast becoming a place of importance and wealth, the centre of a large agricultural district, a good market town, and the presence of three banks, branches of the most influential and wealthy banking companies in the north, speaks for its growing trade and commerce. During summer there is weekly communication by steamer with Glasgow, the boats starting from the Thorn, about two miles from the town at the head, it may be called, of the navigation of Lough Swilly; the cross-channel trade is considerable and yearly increasing. It is also the head quarters of the Donegal artillery and the police force of the county. A new lunatic asylum has lately been erected in a commanding position near the town, and at an expense of over £25,000; this and many other surroundings mark it out as the county town of the future, and which is evident is only a mere matter of time.

The long-talked-of resumption of the works of the railway to Derry (suspended in 1865, after a considerable amount of expenditure), now about being proceeded with, will still further develop the resources of the district, and open up a *terra incognita*, alike of material concern to the merchant and trader, as also extremely interesting to the tourist and visitor, and which difficulty of access to now nearly precludes being known and appreciated as it is entitled to. A great future is in store for this prosperous town, and it is gratifying to be able to point to it as an example worthy of imitation, where *deeds*, not *words*, are the order of the day, and with the results as above described.

THE CHRISTIAN BROTHERS' SCHOOLS, RICHMOND-STREET.

DURING the recent visit of Cardinal Franchi to this country he took occasion, in company with Cardinal Cullen and other distinguished personages, to visit the above schools, which were founded by O'Connell in 1828. We understand the Cardinal was thoroughly satisfied with all he witnessed, and heartily complimented the good Christian Brothers upon the results of their educational training. Although it is travelling outside our province in a professional journal such as ours, to meddle with purely religious or political subjects, we must for the nonce bear evidence to the good management of these schools for the last thirty years and upwards under the Superior of the Dublin Brotherhood, the Rev. Brother Graco. To our own knowledge, many of the former pupils of the Richmond-street Schools have risen to respectable and even high positions at home and abroad. Some have become architects, engineers, and distinguished professional and political journalists, and are not ashamed to avow that they owe much of their success in life to the education and training they received at the Richmond-street Schools.

We would add here, for the information of readers specially interested, that a full description of the visit of the two eminent Cardinals, with other matter, will be found in the *Illustrated Monitor* of the 30th ult., just published.

SOCIAL SCIENCE CONGRESS.

THE Congress opens this year at Liverpool on the 11th, lasting until the 18th, under the presidency of the Hon. the Marquis of Huntley. Special papers will be read and discussed in the various departments, and a good gathering is anticipated.

TO CORRESPONDENTS.

OLD SUBSCRIBER.—Consult a respectable solicitor. It would appear the whole thing has been an attempt at fraud.

J. O.—The subscription is payable in advance. Stamps will be received in payment.

T. A. (Cork).—Send list at once. We may be able to supply the numbers you require. They will be 4d. each.

ARROLOGIA.—The length of some of our articles, and pressure through other matters, obliges us to leave a number of correspondents unattended to.

RECEIVED.—F. H. G. (Derry)—J. J. M'D. (Belfast)—W. F. Athlone.—A. Medical Officer of Health.—H. B. (Belfast)—Finbar (Cork)—M. D. (Kingstown)—An Operative of the Old School.—Antiquary—W. C.—C. E.—R. H. A.—An Actor—K.—S. W., &c.

HOME AND FOREIGN NOTES.

UNJUST WEIGHTS AND MEASURES.—At Naas Petty Sessions last week the inspector summoned the Grand Canal Company for having two 56 lb. weights, one an ounce light and the other three-quarters of an ounce light. There was a previous conviction in July, 1876. John Carroll, storekeeper, said that the weights were adjusted some short time ago, and that when in use so small a discrepancy could never affect the public, as the lowest computation made was per cwt., for which the charge was only three pence. Fined 5s. and costs, and weights to be forfeited. Several traders were summoned for similar offences, and small fines imposed in each case.

The London Metropolitan Board of Works have in the last 20 years revised the names of 1,916 streets, abolished 6,740 superfluous names, and given new numbers to 143,406 houses.

NORTH DUBLIN UNION.—In answer to advertisements for tenders for building an addition to Dr. Tait's residence, the guardians opened several at their meeting on Wednesday. They were all found to greatly exceed the sum estimated by the architect—in many instances double—and it was decided to issue fresh advertisements, to be sent in on next Wednesday, 4th inst.

MEMORIAL WINDOW IN CAVAN.—In Cavan parish church a stained glass window has been erected by the parishioners in affectionate remembrance of the Rev. Joseph Carson Moore, who was for ten years their curate. The window, which has been placed in the chancel, is 18 ft. in height by 8 ft. in width. The two centre divisions are occupied by emblematic figures. Arranged in floral tracery at either side of the figures are the words, "He that goeth forth and weepeth bearing precious seed shall doubtless come again with his sheaves with him." Along the bottom of the window is the inscription, "In memory of the Rev. Joseph Carson Moore, for ten years curate of this parish, died at Lisbon, March 20th, 1871." The work has been executed by a London firm.

A FONT AND ITS COST.—At a recent meeting of the Guardians of the Kilkenny Union the clerk stated that in pursuance of a resolution passed on last board day he had written to Mr. Colles in reference to a baptismal font for the workhouse chapel. Mr. Colles replied, enclosing in his letter a sketch of a polished black marble font which he has in stock—which, if made to order, would cost £10—but, being on hand, he would erect it in the chapel and provide a cover for £7 10s. Mr. Morris having examined the sketch, said that the font would be grand enough for the cathedral. Mr. Kavanagh said that a cheaper article ought to do, and he would suggest that Mr. Colles be offered £5. If Mr. Colles refused that amount, then they could write to the houses in Brunswick-street, Dublin. Mr. Rice said that they ought to offer £6 at lowest. Alderman O'Donnell said that when they were offered a £10 article at £7 10s., it was economy to take it. Mr. Maher said that £5 was too high a sum to give. They did not want an expensive article. Mr. Morris was of opinion that an article of this description would be out of character with the building. Mr. Kavanagh said that there was a very nice font in Tullaroan Chapel, made of plain limestone, which would do here very well, and it could be had for 50s. It would answer just as well as a black polished one. If Mr. Colles does not take £5, advertise for one. Alderman O'Donnell considered it would be an insult to the man. Mayor—What objection can there be to advertising for one not exceeding £5 or £5 10s.? Alderman O'Donnell proposed that Mr. Colles be offered £6, and if he did not accept that, the board could do what was right afterwards. Mr. Rice seconded the proposition, which was carried.

NOTICE.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

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THROAT IRRITATION.—The throat and windpipe are especially liable to inflammation, causing soreness and dryness, tickling and irritation, inducing cough and affecting the voice. For these symptoms use glycerine in the form of Jujubes. Glycerine, in these agreeable confections, being in proximity to the glands at the moment they are excited by the act of sucking, becomes actively healing. Sold only in 6d. and 1s. boxes (by post 14 stamps), labelled—"JAMES EPPS & Co., Homœopathic Chemists, 48 Threadneedle-street, and 170 Piccadilly, London." Dublin Depot—Hamilton, Long & Co., Lower Sackville-street

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Goods can also be shipped by steamer or sailing vessel from Glasgow or the Works to any Port in Ireland. White Enamelled Bricks awarded Prize Metal Highland Society's Show, Glasgow, 1875. To FARMERS AND OTHERS.—Field Drainage Pipes, from 1½ inch to 6 inches in bore, of the best quality, at moderate terms. Prices and all particulars on application. Inspection invited.

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1	16"	5 1/2"	57 1/2	400	17	6 1/2"	5 1/2"	18	45		
31	15"	5"	50 1/2	330	18	6 1/4"	2"	10 1/2	30		
9	14"	5 1/2"	60	325	20	5 1/2"	2"	10 1/2	22 1/2		
4	12"	6"	36	300	35	3 1/2"	2 1/2"	12 1/2	30		
5	12"	5 1/2"	42	270	23	5"	2 1/2"	12 1/2	23		
50	10"	5"	36	17 1/2	22	5"	3"	13	30		
8	10"	4 1/2"	32	130	36	4 1/2"	2"	8	17 1/2		
32	9 1/2"	4 1/2"	29	116	40	4"	3"	11	20		
9	9 1/2"	3 1/2"	24 1/2	90	25	4"	2"	8 1/2	14		
33	8 1/2"	2 1/2"	18	60	37	3"	2"	5 1/2	10		
12	8"	4"	22	80	38	3"	3"	9	17 1/2		
11	8"	5"	29	95							
13	8"	2 1/2"	15	40							
39	7"	4"	22 1/2	70							
15	7"	3 1/2"	19	60							
16	7"	2 1/2"	14	35							

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The Irish Builder.

VOL. XVIII.—No. 404.

Building Reform.



URING the past thirty years the public have witnessed and helped in many political and legislative reforms; yet, despite the spread of education, the improvement of municipal and local administration in various ways, and the passing of sanitary laws, the question of Building Reform has only been scratched upon the surface. True, indeed, we have in certain cities and towns building acts, portions of which are workable and others unworkable, but little is done to enforce their provisions where they can and ought to be enforced. Under the Metropolitan Board of Works in London, its district surveyors have been in some instances of late doing their duty, in seeing that the provisions of the Building Act are carried out; but the speculating or "Jerry" builder tribe have, up to the present moment, overmastered, or, rather, hoodwinked the surveyors; and, we regret to say, in not a few cases they have done so with impunity. The parish boards' surveyors, who are of a different class, are, with few exceptions, an unreliable class of public officials. They are under the thumb of their masters, the members or representatives of the parish or local boards, and a large number of these said members are owners of a cheap class of house property—new buildings and tumble-down buildings of a past generation or two. Many members of vestries and local boards in the outlying districts of London and other cities and towns are of a "Jerry" building element, and when this is considered it need not be wondered that parish surveyors and sanitary inspectors belonging to the same boards are slow in reporting infringements of building and sanitary acts on the part of their masters.

In Dublin, too, we are informed that members of our Corporation are owners of some of the worst class of property in the city; and we believe it is a fact that some of the sanitary officers or sanitary sergeants of the police are owners of tenement houses whose general and sanitary condition is a disgrace to Dublin. How, then, is a building reform to be carried out under the circumstances alluded to? Who will guard the guards? Who will reform the unreformed entrusted with carrying out reforms which it is their direct personal interest to oppose and obstruct by every subterfuge in their power? "Jerry" building has of late years cropped up in Dublin. It is an imported plant from the sister kingdom; but if not extirpated, the dangerous and noxious weed will take root and grow apace.

Houses in the suburban districts of Dublin, as well as in the outlying districts of London, are now being run up as a speculation for sale. In the cheapest class of houses built in this city a quarter of a century since, tolerably fair materials were used, and fair workmanship was evidenced; they were not, as a rule, built for sale, but for letting, and

they generally, at least for several years, gave satisfaction to their tenants. The "new trick" is, however, now learned and practised with advantage. Cheap materials, and slop or slush work—which means "scamped" work—is the order of the day in several places; and artisans who really can execute good workmanship are made instruments in turning out bad work. Streets and rows of houses in our suburban neighbourhoods are being run up by even tolerably respectable builders, or by speculators apart, for sale, which neither the builder nor the speculating capitalist would retain in their own hands for any consideration. The cost of keeping them in repair would spell ruin or bankruptcy. These houses are in a few years fated to pass from one purchaser's hands to another, because they turn out a bad investment; but in the meantime the unfortunate tenant or occupier is the victim.

The game of "building to sell" has been in full swing in the London metropolis for many years, and in several of the midland towns—Birmingham, Sheffield, Leeds, Newcastle-on-Tyne, Liverpool, and other large manufacturing towns. In Liverpool "Jerry" building is a plant of many years' growth, and fortunes have been made by these pestiferous scamps of the building trade. The largest number of the "Jerry" tribe in Liverpool are Welchmen, who, though they love the Principality well, appear to love the "unprincipality" better, for they are entirely devoid of principle or honesty in their building operations. It is to be hoped that the Social Science Congress now sitting in Liverpool will strike a blow to "Jerryism" and all its concomitant evils.

It creates a surprise to think how, with all our sanitary acts, such a numerous class of common robbers are allowed to live and practise their vile arts in our midst. A man buys a house with a warranty, but he buys a house, which is a far more important matter, at his own risk. If he is deceived in the matter of the horse, the law will enable him to recover his money, and perhaps punish the seller; but if he is deceived in the purchase of a house, he has apparently no redress,—the seller can laugh at his dupe, and go on scamping, selling, and rejoicing that the law is a fiction, and that fools with money will be always plentiful, and "Jerry" houses a profitable speculation.

We will here afford an illustration of how speculative houses of the "Jerry" class are sometimes promoted and often built. A number of needy and unprincipled speculators take several building lots together; one will do the brickwork, another the timbering or carpentry and joinery work, another the plastering, another the painting, and so on, each trade working out the value of the other in turn, and each at the same time often trying to "best," or, in other words, cheat each other at every possible opportunity. The greater part of new townships in several places is made up of houses built in this slap-dash style. The nefarious builders who erect these get rid of them as fast as they are finished, and commence again. Sooner than they should lie for any length of time on their hands, they are quite ready to pay any person a handsome commission for obtaining a purchaser for one or more. Their motto is large profits and quick sales if possible, but in any case quick sales though the profits may be small. Respectable people are often entrapped into buying houses of

the class we have specified, as an investment, or have through their lawyers advanced money, and the interest remaining unpaid, because the houses have not met with purchasers, have been compelled to foreclose and take them into their own hands. In this case they pass into a respectable ownership for awhile, and under such circumstances they may still become a trap, for the owners will be glad to part with them.

We have repeatedly spoken of the necessity of a Building Act for Dublin, for it is undeniable that very little supervision takes place, either on the part of the Borough Engineer or the surveyors of the several townships. Builders in the suburban districts erect houses exactly as they like, and, as in the outlying districts of London, little building control is exercised over their erection. With the Building Act the hands of the sanitary authorities would be strengthened, and the observance of certain rules would be enforced—perhaps we should say could be enforced; for even the powers possessed now by our municipal and township authorities are not enforced for reasons already specified. Our Medical Officer of Health could assist, to some extent, in the cause of building reform, which is so intimately connected with sanitary reform; but our medical officers, as a body, are deficient of the practical information necessary to detect scamped workmanship and materials, or of the principles of general building construction. They could, however, enlist the services of the surveyors of the board to which they belong, and thus they might often detect the nefarious practices of unprincipled builders, and put the law in force against them. A medical officer may perfectly well understand what sewage is, and be able to detect bad smells; but in the prevention of the causes that lead to them he at present affords the public very little aid. It is not at present expected that he is well versed in the principles that regulate the construction of efficient street sewers or house-drains, and from bad construction in these matters arise many great evils that call for the exercise of his curative powers, and often in vain.

Good house building is, therefore, a vital question—a question affecting all classes of society, and demanding the enacting and the enforcing of laws that will effectively check, or at least minimise, the dangers that mankind are constantly exposed to in all countries. There can be no thorough Sanitary Reform without a Building Reform, and it is a reflection upon our laws and the makers of them, that those who are appointed to administer them are still held guiltless of the evils for which they are directly accountable, for neglecting to enforce them for the safety of the public and human health.

THE PAVEMENT PUZZLE.

WITHIN the past ten years several kinds of paving material have been tried in London, some of which have been tolerably successful, some partially successful, and others complete failures. New methods are cropping up, and new experiments are being tried. Dublin, too, has been trying its hand on a small scale; and in our Corporation there are interested individuals who can see no good material save that of which they have formed an opinion.

At a meeting of the City Commissioners of Sewers in London an application has been made on behalf of Messrs. Poletti and Dimple, the inventors of a new description of pavement, for permission to lay down a portion of their pavement as an experiment in some

part of the city, and the application requested to make the experiment in some part of the city where the traffic was of the heaviest character. The proposed new pavement was described as being more durable than either asphalt, granite, or wood, and to make no dust or mud, and to be also noiseless. The application has been referred to the Streets Committee.

Here in Dublin, at a special meeting of No. 1 Committee of the Corporation, Messrs. Bolton, Nickson, Jones, and Field, on the part of the inhabitants of Westmoreland-street, had an interview with the committee in regard to a proposition to co-operate with the Corporation in substituting wood for the present stone pavement of that street. Mr. Edward Fox also attended on behalf of the Improved Wood Pavement Company. The deputation was informed that no proposition could be entertained unless it provided for the maintenance of the pavement for ten years, and for its being given up to the Corporation at the end of that period in perfect condition; and they were requested to ascertain on what terms any of the Wood Companies would execute the work subject to these provisions, and what proportion of the cost of the undertaking would be borne by the inhabitants. The engineer was instructed to supply the deputation with estimates, and to inform them of the terms on which the Corporation have laid with asphalt the thoroughfares of Grafton-street, Henry-street, and Mary-street. The secretary was also instructed to inquire from the various municipal authorities with what result wood pavement has been tried in the several cities in which it has been laid.

Both asphalt and wood have advantages not possessed by granite; they are almost noiseless, and when well laid are to a degree durable. Both, however, require attention, and some descriptions of the former are very slippery in winter time, and require sanding in frosty weather and watering in summer weather. The asphalt, on the whole, is a clean pavement. Wood pavement, besides creating little noise, has the advantage of not occasioning many accidents—horses do not fall so often upon it as upon asphalt. The advantages of granite pavement need not be described in Dublin, for the public have had a long experience of it. It is very noisy, and, if not very well and closely laid, and also of a good kind, it crumbles away soon, and produces in Dublin streets, which as a rule are not well cleansed, a large amount of dirt or mud in wet weather and blinding dust in summer weather. The leading streets of the City of London are well attended to, particularly the asphalt pavement. Metal dust-bins are placed at certain distances along the sidewalks, often mistaken for pillar posts by "country cousins," and the horse droppings, which are constantly removed from the streets by boys employed for the purpose, is shot into these, for night or early morning removal by the carts of the Commissioners of Sewers.

Whatever pavement may be ultimately and generally adopted for the leading streets of Dublin, satisfaction will never be given unless means are taken by the Corporation to keep the streets clean. Our system of scavenging is a disgrace, and the staff, as a whole, are next to worthless. If our paving material was as clean a material as glass, yet still combining the properties of the best asphalt, we fear that here in Dublin, under the present system of street cleansing, our streets would continue dirty, and our pavement prove unsatisfactory.

CLOCKS, CHIMES, AND CARILLONS.

MESSRS. Gillet and Bland, of Croydon, the makers of the great clocks and chimes for the International Exhibitions of 1862, 1871, 1872, and 1873, and 400 public buildings, as well as a number of churches, including St. Patrick's Cathedral in this city, have just fitted up a new clock, chimes, and carillon in the tower of St. Mark's Church, Glodwick, Oldham. The clock strikes the hours upon a

bell 8 cwt., chimes the celebrated St. Mary's of Cambridge, chimes every quarter of an hour on four other bells, and shows the time upon a 4 ft. 8 in. skeleton iron dial, glazed with opal glass for illumination. The carillon or chiming machine is placed in the chamber below the clock, to which it is attached by a wire for the purpose of letting off the tunes at the proper intervals. It plays fourteen tunes on eight bells—a fresh tune every day for fourteen days. Each tune is played three times over every three hours—at six, nine, three, and twelve o'clock day and night, the change of tune taking place at midnight by a self-acting arrangement. The machine has also a barrel pricked with changes, similar to ringing a peal, which is used automatically for the services of the church on Sundays, rendering the employment of ringers unnecessary.

ART EDUCATION.*

THE old Schools of Design were superseded by schools for giving instruction in drawing, and Schools of Art. It was not a few men in Nottingham specially educated to design exquisite patterns for lace curtains, or a few select designers of cotton patterns in Manchester that were most wanted in this country, but a general improvement in the art education and feeling of the entire population of the country—a much higher education in art. As long as they were content to go to shops and purchase, say carpets covered all over with sprawling rhubarb leaves and sunflowers, or purchase window hangings with pieces of huge Gothic ornament in such high relief as almost to break one's neck to look at it, even without having to walk over it, and other articles with patterns of such a size as would take a room as large as that hall to enable even an imperfect notion to be obtained of them, there was not much ground for hope for the improvement of art, either as applied to domestic use or in manufactures. So rude still was public taste in respect to art as applied to textile fabrics, that they might go into a shop in any town and purchase a hearth-rug with a great purple lion for twelve and sixpence—paper-hangings with vivid representations of steeplechases, varied, perhaps, with Chinese pagodas; or window blinds with peacocks sitting on gates, a performing goat, a kangaroo, or a flotilla of ducks swimming through oceans of cotton gauze. The explanation of this was not hard to find. The love of making money was far stronger among men than any desire to promote any improvement in art. As long as the great mass of the people remained ignorant of the true principles of taste, so long would they continue to select the most vulgar patterns; so long would the vendors continue to supply the articles demanded by their customers; and so long would the manufacturers continue to produce vulgar incongruities instead of artistic designs. Thus the root of the evil lay in the defective art education of the public, and there should be applied the remedy, which was dissemination of a better taste, and a more correct knowledge of the principles of art. Thus the art education of the population of the country must begin with the people and with the rising generation; and, therefore, in the schools the first step in this direction was the acquiring a sound practical knowledge of freehand drawing. To what an extent was the beauty of this world lost to us all, because we had not been properly taught to see it! God surely intended that we should learn from what we saw, as well as from that we heard. It was indeed, doubtful, whether persons without a love for the beautiful in nature could rise to an appreciation of the beautiful in art; for the highest and most perfect effort of human art must necessarily fall infinitely short of the excellence which may be seen in nature. The poorest labourer in the fields was in the daily presence of works of a greater than Raphael; he had a daily opportunity of see-

ing the beauty which gleamed forth in the opening flowers of spring, the full bloom of summer, the rich tints of autumn; he could witness the golden glory of the rising sun every morning, the purple west at sunset. And yet the majority of these people went through the world as insensible to these purifying influences as if they had been ever tenants of a dungeon. He would urge them to cultivate a love of the beauties of nature in their children, for beautiful things generally were associated with and suggested purity of feeling. They should remember that the object of art-instruction was not to make them all artists, but rather to cultivate their tastes and to excite and foster in them a love of the beautiful. Neither should art-teaching, nor art itself, be intended for ostentatious display. The finest picture the world had ever seen was found decorating the ceiling of a small chapel near Milan; and the finest piece of sculpture in Greek art was found as a decoration in the frieze of a Greek temple. The true object of art should be to inspire a deeper emotional feeling, and a love of Him who made everything beautiful. It should not be imagined that art was alone made for the rich: there was no possible reason why a chair made of the commonest wood, or a tea cup of the commonest ware, should not be beautiful in form. And it would be found that simplicity of form was one of the chief elements of beauty. As outline formed a main element in the beauty of form, the first instruction in that branch should be the teaching of outline and freehand drawing, and for this purpose it would be of the greatest importance to have the youthful mind familiarised early with those forms to be found in nature, which might with advantage be frequently availed of for models. Perfect form was the foundation of the higher departments of art. Many young men, full of hope and promise, were in too great a hurry, and had been entirely shipwrecked for want of this early instruction in drawing. No time bestowed on the acquiring of freehand drawing was lost. Let no young man feel his time thrown away because of the tediousness of the exercises in freehand drawing. If they wished to make any progress in art they should be prepared for the work necessary to acquire that knowledge, and when they had acquired that knowledge that would have little difficulty in applying it to the common surroundings of their daily life. They should try to make their homes beautiful. It was not a matter of money: this was a matter of knowledge. A few good prints, a few flowers, a paper selected in good taste;—these would form a constant charm in every household. And it would not be difficult to give a few very simple rules which might be easily understood, with reference to the application of this decorative art to the common purposes of daily life. Suppose any young lady had to purchase a carpet. He had read somewhere, he did not know where, nor did he know whether the narrative was true or false, but he had read that there was no more interesting period in a lady's life than when she had to furnish a house at the expense of somebody else. Now, should such a time come to any of the young ladies present, they should remember that they were not to convert their house into an advertisement for the man who sold them the furnishings; it should rather be an advertisement of their own taste. They should not follow implicitly what they might be told by a selfish shopkeeper who wanted to sell his goods; he would recommend to them whatever he wanted to sell. They should exercise their own discretion and taste, and if they had attended that Art School even for six months they would have acquired such an acquaintance and knowledge of the principles of art as would make itself manifest in their domestic arrangements. Taste was the contemplation of those material objects from which our moral pleasure was derived. A work of art was a constant charm and a constant pleasure. One was never tired of contemplating it. It was of vulgar things that people were apt to grow tired.

* From address by Mr. Buckmaster, of the South Kensington Museum. Delivered at annual meeting of the Mansfield School of Art and Science.

STREET IMPROVEMENTS.

At a late special meeting of the Corporation a report was read from a committee of the whole house recommending the Council to vote £200 for the widening of the thoroughfare at the corner of Parliament-street and Dame-street, and £250 for the improvement of Talbot-street, by widening the street by six feet, between Talbot-lane and Marlborough-street, provided the inhabitants and others make up the £350 additional required in the latter case to compensate the owner. After a considerable amount of discussion the first part of the report in relation to Parliament-street was carried. At a second special meeting it was moved—"That the Committee No. 1 be authorized to allocate the sum of £800, provided the citizens and inhabitants of Talbot-street and its vicinity contribute a similar amount, for the purpose of purchasing so much of the site of the house 25 Marlborough-street, at the corner of that street and Talbot-street, as will be necessary to widen the latter street, in order to facilitate traffic through this important business thoroughfare, and that the said Committee do forthwith inquire and report on this matter." It was stated the Northern Railway Company had offered to contribute £50, or double that amount towards the work, and that the inhabitants were willing to contribute the difference. Eventually an amendment was carried to substitute £250 for £800, and no matter what the improvement was to cost the Corporation were only to contribute the former sum.

NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.*

THE new actor that now appears upon the Irish stage, which he certainly ornamented as well as reformed in a short time, is Thomas Sheridan. He was the son of the Rev. Thomas Sheridan, who was a poet and wit as well as a divine, and had Dean Swift as his friend and companion, and was also the father of Richard Brinsley Sheridan. On the 29th of January, 1742-3, the part of Richard III. was acted by a "young gentleman" at Smock-alley, and as a first attempt of a young and unknown actor it exceeded expectations. As a first essay, it was said to have equalled any ever remembered by the oldest actor on the Irish stage. In a few days the character of Mithridates in Lee's tragedy of that name was played by the young aspirant, and public opinion was confirmed as to the qualities of the actor. Disguise was no longer needed, and a second performance of Richard was announced with Mr. Sheridan's name. On February the 9th Richard was repeated for the young actor's own benefit to a crowded audience, and shortly after followed "Hamlet," affording fresh proofs of rare abilities. During the remainder of the season Sheridan played Brutus in "Julius Cæsar," Carlos in the "Pop's Fortune," Othello, Lord Townly, and Cato, the performance of the latter adding to his growing reputation. The study and public performance of the above characters in so short a space of time evidences a large amount of study and active industry. Among the actors who visited Dublin in 1742-3 were Theophilus Cibber and Mr. and Mrs. Giffard, who appeared at Smock-alley, and Mr. Havard, who was a native of this city, appeared at Aungier-street. The former were said to have brought money, but the latter on that occasion did not prove of much service. The public, however, were glad of a change, having previously witnessed so much theatrical wrangling between managers and actors, coupled with disorders at both theatres. Cibber's first appearance was in the character of Lord Foppington, in his father's comedy of the "Careless Husband," Sir Charles Easy and Lady Betty Modish were personated by Mr. and Mrs. Giffard. The revived pieces on this occasion were: "The Relapse"—Lord Foppington, Cibber, Lovelace, and Berinthea, by the Giffards; and Cibber's "Mock Doctor;" the "Old

Batchelor," in which they played Fondle-wife, Belmour, and Letitia, with the "School-boy" of Cibber; the "Conscious Lovers"—Tom, Bevil, and Indiana, with the "Rehearsal," in which Cibber played Bayes. We learn from an authority already acknowledged that Theophilus Cibber, not satisfied with the reputation acquired in comedy, exhibited "his beautiful person, and charming with his harmonious tones in tragedy." Much to his own satisfaction, he played Polydore in the "Orphan," Syhax in "Cato," and Lothario in the "Fair Penitent." In the latter Mr. Giffard performed Altamont. Mr. Sheridan Horatio, and Mrs. Giffard Calista. Hitchcock of these performances writes that "perhaps the public will not readily believe that Cibber's vanity could tempt him so far as to play Othello; such, however, really was the case." Wright, an actor of merit, previously mentioned, acted Iago; Mr. and Mrs. Giffard, Cassio and Desdemona. At the close of the season, Giffard, with his wife, and Cibber and Havard, went back to London.

The growing reputation of Mr. Sheridan, even at this early period, excited the envy of those who were unable to cope with him, and efforts were made in many open and covert ways to thwart and obstruct him. In *Faulkner's Journal*, on the 17th of July, 1748, the following letters appeared, addressed respectively to the proprietor of the journal and to Mr. Sheridan, the emanation of a party of young gentlemen in Trinity College who were disappointed in seeing him acting Cato:—

"Sir,—Upon a strict and impartial inquiry into the reasons of Mr. Sheridan's not appearing on Thursday last in the character of Cato, we find them so strong and satisfactory that our resolution, we hope, will be favourably looked upon of seeing him righted, and the insolence of others properly chastised, who, either through envy or malice, would remove the strongest inducement we have to visiting the play-house, and consequently deprive us of the satisfaction we propose to ourselves from the most rational amusement; and it is expected none will condemn us for frustrating the malicious contrivance of some designing wretches, and by so doing convince them their envious but shallow practices shall always prove abortive whenever they tend to wrong or depress merit. An apology of this nature we could not but judge as absolutely necessary to prevent any misconstructions we might possibly expose ourselves to, to find one of the principal characters burlesqued by one every way unequal to it."

"To Mr. Sheridan.—The reasons you assign for not performing the part of Cato are more than sufficient to justify you in the opinion of every unprejudiced person; and though your resentment is equally just, we hope it will not deprive us of the satisfaction we promise ourselves from so eminent a genius. As the declarations of some mischievous persons may possibly have made you apprehensive of being hereafter insulted, we take this opportunity, with the greatest deference to those whose judgment is to be regarded, of publicly assuring you that the just sense we have of your merit, and the ill usage you have met with, have determined us not only to support you, but frustrate any malicious schemes theatrical politicians may form to your disadvantage."

What were the special causes that gave rise to the above correspondence, we can only imagine in the absence of particulars; but we find that Sheridan, at the earnest desire of a large number of ladies and gentlemen, played Cato a few nights afterwards at Aungier-street to a large and brilliant audience, receiving a hearty applause for his able performance of the character. In our days, though actors who may be ill treated may meet with defenders in the Press, their cause is not backed up in so forcible a manner as in the case of Sheridan. The boys of Trinity were seemingly ready to back up their resolve by a physical manifestation in their countryman's favour, if needed. Some of them might be disorderly in the theatre, but when they found an actor of merit unfairly treated, would not stand by to witness him trampled down. Passion, however, blinds men; and, as history moves on, we find the defenders of to-day becoming the assailants of to-morrow.

After Sheridan's called-for performance of Cato, the theatre closed for the season. The next event is a coalition of parties between both theatres, who were for several years playing a losing game by factious instead of generous rivalry. The proprietors of both theatres came to the resolution of concluding a union for their mutual advantage, performing at Aungier-street only. The proposal was a wise one, but there were difficulties in the way not to be lightly thought of. To create a new company out of two old ones necessitated the rejection of many actors, and those thrown over naturally felt aggrieved. The weeded-out party, it is stated, had the address by fraudulent means to obtain the old lease of Smock-alley Theatre from Duval, the principal proprietor, and, taking possession, resolved upon a bitter opposition to the coalition. Small in numbers, but low in finances, still they determined to proceed. They first engaged a little company playing in the north of Ireland, and said company were only too ready to find an opening in the metropolis, to which they hastened, elate with hopes not to be realised. Sheridan, however, had not acceded to the terms proposed to him by the Aungier-street managers, which were £100 for playing till the benefits commenced, and £100 ensured by his own benefit. He regretted this offer for the reason that it was £50 less than Mrs. Furnival's salary, and less than Mademoiselle Chateneuf's, and also because it was about a third of what was paid to Mr. Arne and Mr. Lowe. There was certainly force in Mr. Sheridan's reasons for declining the terms offered by the Aungier-street managers. The Mr. Lowe mentioned was a celebrated singer, in the height of his fame, and who had made his first appearance in Ireland in the character of Macheath in the "Beggars Opera," which was played eight nights with the following caste:—Peachum, by Mr. Spark; Lockit, Beamsly; Filch, Dyer; Lucy, Mrs. Bayley; Mrs. Peachum, Miss Polly Davis; Polly being played by Mademoiselle Chateneuf.

Sheridan at this time was contemplating the reform of the Dublin Stage, and he had a well-founded and honest ambition in aspiring for its government as a whole. He insisted on the sole management of the theatre, and to secure this end he offered the proprietors to secure them £500 per year. This they refused, and, finding further negotiations useless, he went over to the other party, who opened in a few days with the tragedy of "Richard," which was thus announced on the bills:—"The part of King Richard the Third by Mr. Sheridan, King Henry by Mr. Elrington, and all the rest of the parts by persons who never appeared on this stage," or perhaps on any other. Among these new performers were—a Mrs. Storer, who played Lady Anne; and Mrs. Mynett, the queen.

Now commences a sad paper war on the part of the rival theatres; accusations were made, charges were preferred, and each party endeavoured to shift the blame from their own shoulders each on the other. The flame soon burnt out; Sheridan's great abilities were unable to save the party he espoused, because they were nearly destitute of merit. After a struggle of six weeks Sheridan accepted a good offer from the Drury-lane management, and left for London in January, 1744. His hope of reforming the Irish stage was deferred for awhile. After Sheridan's departure for London opposition ceased, and a few of the principal actors of Smock-alley are taken into favour; the united companies playing occasionally at each theatre. Bad management, and all the attendant ills crop up again—poverty, irregularity, and bitter disappointments.

Another star now appears in the Irish firmament, and destined for a while to be a star of some magnitude. The juncture, to say the least, was unfavourable for the successful *début* of a new actor. It was to be, however; the curtain rises, and Spranger Barry, born in Skinner's-row, Dublin, in 1717, makes his first appearance on the stage.

* See ante.

BOOKS RECEIVED.

Cassell's Popular Educator. 2nd Issue.
London: Cassell, Petter and Galpin.

We are reminded that more than twenty years have elapsed since the first appearance of this publication. In the issue just commenced the necessary emendations will be studiously carried out, and such new features will be added as are required to bring it into harmony with modern wants. We have before us the first monthly part and shall briefly indicate its contents. It contains, in sixty-four pages, printed in clear type, lessons in English, French, German, Latin, Arithmetic, Geometry, Mechanics, Penmanship, Drawing, Music, Geography, History, Reading and Elocution, Botany, Animal Physiology, Gymnastics, and—as a proof that the old proverb, “All work and no play makes Jack a dull boy,” is borne in mind—there are papers under the title of “Our Holiday.” Throughout the various papers, where illustration is calculated to render the subject more intelligible and attractive, there is no sparing of expense, for upwards of fifty wood-engravings and diagrams are interspersed through the text of this first part. A chart of “Progress in the Nineteenth Century” accompanies the part.

Handbook for Emigrants proceeding to South Australia, &c. London: G. Street, Cornhill, E.C.

A PAMPHLET is before us, entitled a “Handbook for Emigrants proceeding to Adelaide, South Australia.” It is published under the authority of the South Australian Government, and it is issued by George Street, Cornhill, London. Now, we are not advocates for general emigration on the part of our agricultural labourers, tenant-farmers, or mechanics; still for all those who are determined to emigrate, and wish to know a good field for their future labours, Adelaide seems to offer peculiar facilities. If the accounts furnished in this Handbook are thought reliable, no healthy, intelligent, or industrious emigrant need fear to succeed. A large amount of useful information is furnished of the position, products, and prospects of the colony, which cannot be otherwise than useful to intending emigrants, and certainly if a choice has to be made we would recommend, at the present time, Adelaide in preference to America.

BRICKLAYERS v. TERRA COTTA FIXERS.

THE following letter of Messrs. Doulton & Co., the well-known firm of Lambeth, London, will explain the circumstances that led to the strike of bricklayers at their works—a strike that has excited considerable attention on the part of the press in London:—

“The strike of bricklayers in connection with two buildings we are erecting on the Albert Embankment, took place because we declined to discharge two men engaged on another building (in High-street), against whom nothing could be alleged except that, although fixers of terra cotta (one of them for twenty years past), they were originally plasterers, and that the Operative Bricklayers' Society had decided that in future all terra cotta must be fixed by bricklayers only.

“The two men, with admirable feeling, offered to leave their employment, on the ground that we should suffer serious loss and inconvenience if they remained. We requested them to stay, urging that it would be as cowardly for them to succumb to the dictation of the union as it would be for us to discharge them, and they still remain at their work.

“We are not without hope that upon consideration the Operative Bricklayers' Society would rescind from the position it had taken, and discontinue such flagrant tyranny towards fellow-workmen. Mr. Coulson (the general secretary) has not, however, communicated further with us, as he promised to do, and the picketing still continues. All men having the appearance of bricklayers are intercepted; a few words suffice to prevent some from going to work, while others are taken to

public-houses adjacent, and are there effectually dealt with. Few men dare to brave the anger of the union, and several have told our manager, “It is no matter to them who is right or wrong, but they cannot go to work on a building where a strike is ordered by the union.

“Two bricklayers belonging to the union actually applied for employment with the full knowledge that a strike was going on. They asked, however, if the buildings were picketed, and on being informed that they were the men declined to go to work, saying they should have been glad to do so if the works had not been picketed.

“In this case there is no question of time or wages; indeed, the terra cotta fixers, on account of their superior skill, are more highly paid than the bricklayers; and, farther, it is no innovation on our part upon the customs of the trade, for we and others have for many years employed skilled men as terra cotta fixers without question; but the fiat of the union has now gone forth that for the future only bricklayers shall set terra cotta.

“It is not sufficient to urge, as we did on Mr. Coulson, that it is our wish, and manifestly our interest, to continue to employ bricklayers for such work as they can do, and that it is no reproach that they cannot execute difficult and artistic work; the action of the unionists seems to point to the result that a skilled craftsman is not to be employed for a high class of work, and that no work in pottery is to be introduced into buildings that cannot be fixed by bricklayers who, in many instances, can know nothing of its design or construction.

“We ask what prospect is there, while working under such trammels of improvements in any manufacturing art; and, further, where is the boasted liberty of English working men if, at the dictum of any society, respectable and skilled artisans are to be prevented from exercising their calling?”

Our contemporary, the *Builder*, in its issue of October 7, devotes an article to the subject, in condemnation of the action of the Bricklayers' Society. We would like to hear how the action of the bricklayers can be defended from their own point of view.

EMPLOYERS AND WORKMEN—ENGLAND AND SCOTLAND.

BUILDING trade disputes still continue, but they are not of very large dimensions. The building trade is very brisk, and bricklayers particularly are well employed, notwithstanding the high price of bricks.

The dispute between the bricklayers' society in London, and the firm of Messrs. Doulton and Co., of Lambeth, is alluded to elsewhere.

At Warwickshire, the protracted strike between the carpenters and joiners and their employers has terminated. The men struck for an advance from 7d. to 8d. per hour, and have accepted 7½d., and resumed work.

At Hull, the plumbers have given their employers notice that they would require an advance of 1d. an hour after the expiration of a week. Four days later the masters not having sent a reply, the operatives sent out a circular stating that they would have to resort to the only course left to secure their claims and cease work. The employers are loud in their complaints against the men for giving such short notice, there being many plumbing contracts running or signed in connection with the building trade.

At Glasgow, the joiners' strike is virtually at an end. Since the commencement of the strike a large number of men have left the city, and there are less joiners in Glasgow than usual. A number have emigrated to New Zealand, and others are in London. The expense to the society was over £4,000, the largest disbursed by them for a like object. The resolutions passed by the society men of refusing to work with “nobs” is rigidly adhered to, so the non-society men are obliged to leave off work, or join the union.

At Dewsbury and Chester, the joiners still remain out on strike.

On the part of the employers' representatives of the North of England manufactured iron trade, notice of a termination of the present rate of wages at the end of the year, with a view to a reduction, has been given.

The present rate of wages (8s. 3d. per ton) is the lowest that has prevailed for more than ten years, except for a short period, when 8s. were paid.

The final award in the dispute in the Northumberland coal trade is left to the umpire of the arbitrators, the Right Hon. Lyon Playfair, M.P.

Mr. Colledge, the Warwickshire miners' agent, has made a statement during the week to the effect that while, during the four-and-a-half years that the union in the county had existed, the members of one lodge alone had contributed but little more than £6,000 to the societies' funds, upwards of £13,000 had been expended in benefits to the members of that lodge exclusively. Thus, he said, it would take them four-and-a-half years longer to contribute what they had already received.

CORRESPONDENCE.

LIGHT RAILWAYS.

TO THE EDITOR OF THE IRISH BUILDER.

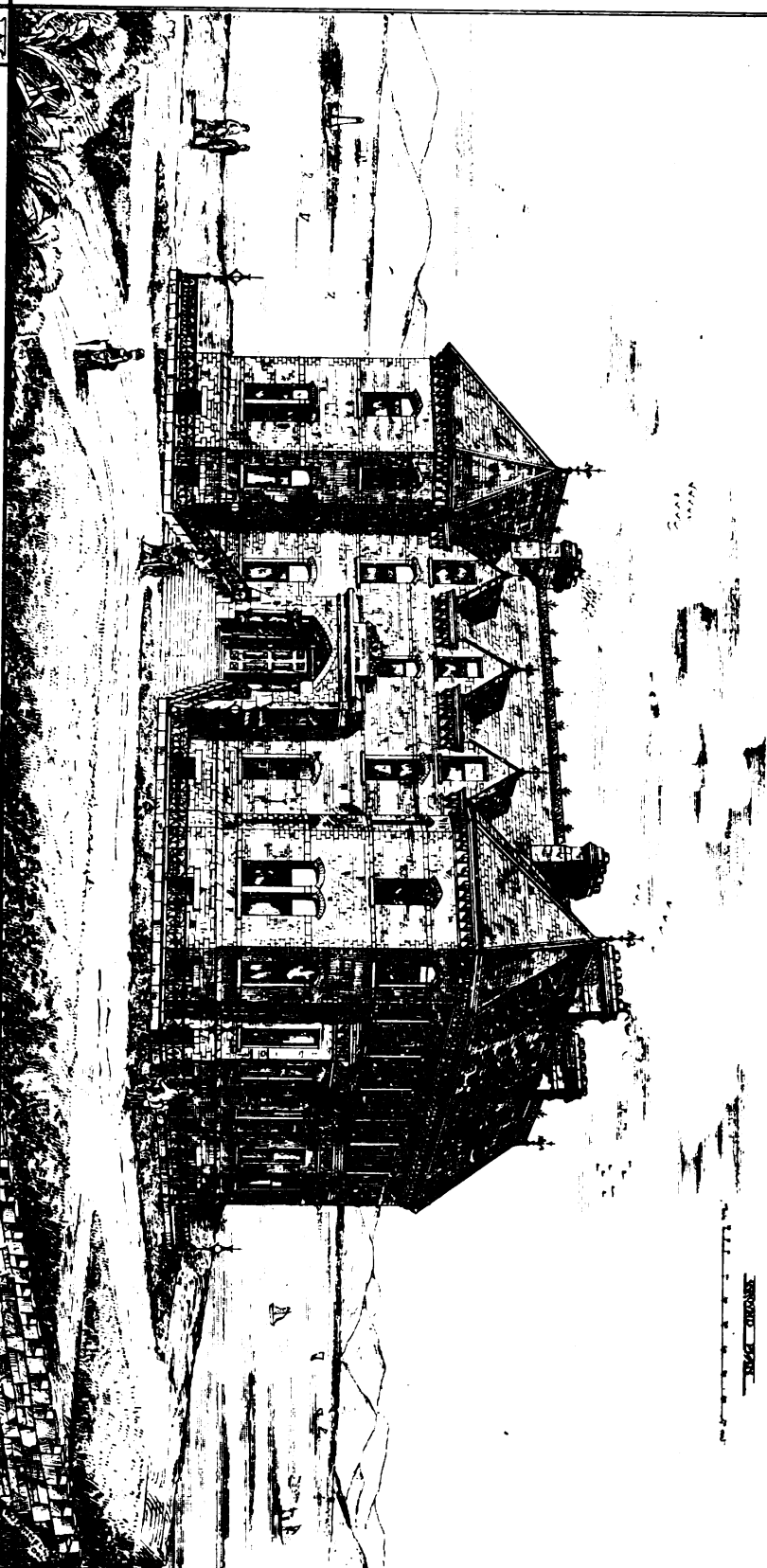
SIR,—Having received a prospectus of the Galway, Oughterard, and Clifden railway, and feeling that the construction of such a line would be of great advantage, not only to the inhabitants of West Galway, but to the travelling public generally, I am anxious that the question of width of gauge should be more prominently brought out than it has been, either in the prospectus or in the discussion which took place at the meeting held in Clifden on the 24th of August last.

It is stated that the line is to be a single one, and also to be a “light railway,” adapting itself as much as possible to the shape of the ground; while the width of gauge is to “receive the most careful consideration of the provisional committee.”

But this is a question which, as it seems to me, should be determined at the outset, for upon the decision will depend, in all probability, whether the line will prove a paying one or not. It is well known amongst engineers that the expenses of a railway are, as nearly as possible, in the proportion of the cube of the diameter of the gauge; and many a line which, if constructed on a really narrow gauge, would be paying handsome dividends to the shareholders, is a profitless concern, owing to the adoption of a broad gauge—under which term I include the ordinary gauge of Irish railways.

Allow me to direct attention to the railways now constructed or in progress in County Antrim—one opened about two years ago from Ballymena to Glenarm, and the other from Ballymena to Larne. These lines have a 3-foot gauge, by which a saving is effected in the extent of ground required, the size of bridges, timbering, plant, engines, and carriages. They are, however, substantially constructed, and are perfectly adapted either for passengers, goods, minerals, or cattle; and (what is very remarkable) the first of these lines that was opened was able to pay a dividend of 3 per cent. to the proprietors at the end of the first year on the carriage of minerals only—an event almost unexampled in the history of railways. In North Wales, lines of even less gauge are at work, as is well known, with excellent results, and paying good dividends, though in a mountainous country.

For such a country as West Galway, I consider that a narrow-gauge line is admirably adapted. It is perfectly safe for a speed of about 30 miles an hour, and would meet the requirements of a comparatively thinly-populated district. The only objection to its adoption that occurs to me is, that it would not fit in with the gauge of the Midland Great Western Railway. But this is an objection of little practical value, and it has been successfully surmounted at Ballymena, where the narrow and ordinary gauges form a junction, and the minerals and goods are transferred from the one to the other on adjoining platforms. It is a great misfortune that such cheap and really “light railways” have not been more generally adopted as



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feeders for the main lines of communication. It is to be feared that engineers and contractors have set their faces against them for obvious reasons; but if so, this is probably a mistaken policy, for, if it can be shown that narrow-gauge lines can prove remunerative and useful where lines of the ordinary gauge would not pay, and are out of the question, a demand for their frequent construction would soon spring up, and give employment to professional men at a time when there is stagnation in nearly all professions.

EDWARD HULL,
Director to the Geological Survey
of Ireland.

5th October, 1876.

A SEARCH FOR AN ADVERTISER.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—I met in a copy of your paper some time ago an advertisement of "Shoes for Shop Shutters," but which I cannot find in late numbers. I would take it as a special favour if you would kindly let me have the advertiser's address, as I am very much in want of such articles at present. R. R.

[The address of the advertiser referred to by our correspondent is "James Harrison, 15 and 35 Union-street, Borough, London." Our advertising columns have not been favoured recently by his announcement.—ED. I. B.]

THE SOCIAL SCIENCE CONGRESS.

ON Wednesday, the 11th inst., the twentieth annual Social Science Congress opened at Liverpool, under the presidency of the Marquis of Huntly. The department for the Amendment of the Law is under the presidency of Mr. F. Herschell, M.P.; that for Education is presided over by the Rev. Mark Pattison, rector of Lincoln College, Oxford; the Health Section has for its chairman Mr. Hawksley, C.E.; and that for Economy and Trade is under the presidency of Mr. G. J. Shaw-Lefevre, M.P. Art is under the special guardianship of Mr. E. J. Poynter, R.A., director of the Art Department, South Kensington. There was a special service at St. Nicholas's Church, at which the Rev. Canon Gray, of Kirby, preached; and in the evening the first formal meeting took place at the Philharmonic Hall.

Lord Aberdare took the chair, and in introducing the Marquis of Huntly as the new president, said that when he heard that the marquis had accepted the office he could not sufficiently admire the gallantry, public spirit, and self-sacrifice which actuated him, particularly as he had not hitherto had the advantage which some of his predecessors enjoyed of acquiring a great deal of practical information which rendered the performance of the presidential duties more easy. But though the Marquis of Huntly had not yet fulfilled any of these public offices, he had on all occasions exhibited a very earnest interest in what affected the good of his fellow citizens, more especially with regard to education.

The Marquis of Huntly, who was warmly greeted, then commenced his address, the major portion of which was devoted to the subject of education. We subjoin a short summary:—The Social Science Congress, he observed, may be said to have at once an ideal significance and a practical use. As regards the first, it is, as it were, the symbol of one of the most honourable and distinctive characteristics of our day—a better, more helpful, and hopeful state of feeling between all the orders and degrees of society. Of the practical utility of these congresses there can be no question. For one thing, they bring the worker in the cause of social reform and the student of social science face to face, and each can aid, instruct, and inspire the other. For another, they are useful in ascertaining the importance of social questions, in securing their discussion by well-informed and deeply interested men, and in keeping before the country the constant need of social re-

form and progress. Politicians may be left to look after politics, but the questions here discussed are the peculiar property of no class or party, but the common concern of all. Society never stands still. Change is busy everywhere, and never allows to-morrow to be an echo of to-day. As Mr. Herbert Spencer says: "Societies acquire increased complexity along with increasing size; show traces of structures and functions not before possible; and give origin to new institutions, new activities, new ideas, sentiments, and habits." These new things are not of necessity good; accident can hardly be trusted to shape either them or their issues. We can apply pre-eminently to social science the words of Ruskin—"This at least we know, shown clearly by the history of all time, that the arts and sciences, ministering to the pride of nations, have invariably hastened their ruin, and this also, without venturing to say that I know, I nevertheless firmly believe, that the same arts and sciences will tend as distinctly to exalt the strength and quicken the soul of every nation which employs them to increase the comfort of lowly life and grace with happy intelligence the unambitious courses of honourable toil." Now, the very reason of our existence as an association is to help society and the State to see what are the conditions necessary to a vigorous and happy life, and how they can be realised. And the history of the past 19 years proves that these congresses have not been held in vain. The legislation and still more the sentiment and opinion of the country have on all the questions we discuss greatly progressed and improved. Law—national and international, civil and criminal—has been modified, reformed, and amended. The public mind is coming now to think the prevention a greater matter than the punishment of crime, to seek the reform of the offender as well as the punishment of the offence. And our criminal law ought to strive to become preventive and reformatory as well as punitive. Our civil laws, too, are in many ways capable of amelioration and reform. But the questions connected with education seem to me even more important in their bearings on our social well-being; and, in discussing them, I would select two points for more special consideration—the education to be aimed at, and the system or method by which it is to be reached; or the ideal we ought to have and strive after, and the means by which it is to be realised. The distinction is familiar enough between education and instruction, or the training that regards man as an end, and the training that regards him as a means. Education is the education of the faculties, the leading out or evolution of the qualities necessary to manhood, latent in every man. Instruction is the process of imparting the skill or knowledge needed to the successful practice of a trade or profession, the qualifying of a man to fill a particular office or do a particular work. Hence, education ought to be general, but instruction specific; the one should make man realise manhood, the other teach him to be a skilful workman or a prudent man of business. Education ought always to be the basis of instruction, and we may the better understand what it ought to be when we have touched on the views of two men who were great masters of it, both as a science and as an art—Plato and John Milton. They conceived it as the means of perfecting man as a physical and intellectual, moral, and social being, and as they conceived it, so do we; and the ideal ought to be good—every step towards it ought to be welcome; no step towards it ought to satisfy. Its realisation may be impossible for the present, but every generation may do and ought to do something towards translating the impossible into the possible, and the possible into the real. We should seek first to educate and then to instruct all the people of these realms. But this can be done only by the careful institution of a proper system, and the ceaseless desire to improve and perfect it in every possible way. Experience is always instructive, and helps us to make

the good of to-day the better of to-morrow. After dilating to a considerable extent on the system of primary and secondary education at present carried out, and its surroundings, the Marquis observed, in conclusion:—Some people, even in these days, seem to think that education makes men dissatisfied and discontented. But the more and better furnished a man's mind is the larger sources of enjoyment lie open to him, and the more will he be diverted from low pursuits, and the more will low tastes be crushed out, and low habits cease to hold power over him. A man is restless and discontented when he is ignorant—he yields to low cravings, because higher faculties have not been stirred within him, and higher aims set before him. Education will help him to rise to a better position in society, or, even if it should not do that, it will fit him to perform better the duties of his state; it will make him a greater man with greater powers, and greater and nobler pleasures, and it will tend to fit him all the more for a loftier and more exalted state hereafter, for which all life and all work here are only the school and preparation.

At the close of the address, which was listened to with great attention, and frequently applauded, the Mayor of Liverpool moved a vote of thanks to the Marquis of Huntly.

Colonel Blackburne, M.P., seconded the motion, which was carried and briefly acknowledged by the Marquis.

Mr. G. W. Hastings moved a vote of thanks to Lord Aberdare, the retiring president, paying a high tribute to his legislative services as well as his services to the association.

The Hon. Dudley Fortescue seconded the motion, which was adopted.

On Thursday, in the Economy and Trade Section, Mr. Francis Fuller read a paper on the increasing importance of seeking rational and beneficial amusements for the people.

For the first time in the history of the Congress, a department was devoted to Art, Mr. Ward, R.A., presiding, in the absence of Mr. Poynter, R.A. Mr. J. J. Stevenson, of London, read a paper on the special question of street architecture, in which he advocated a free and more artistic treatment of buildings and houses, with a greater regard to the picturesque, both in outline and colour. He exhibited designs of red brick houses treated in an effective and ornamental style. He also spoke in favour of curved streets in preference to straight streets. Another paper on the subject was read by Mr. W. H. White, of London; and Mr. George Godwin, F.R.S., read an account of the Art Union of London, in which the popularising of art was dealt with.

The Health Section was presided over by Mr. Hawksley, C.E. Dr. F. F. Bond read a paper on enactments for arresting the spread of infectious fevers. The present law, he said, was lacking in precision, and often permitted culpable carelessness. He maintained that it was the bounden duty of the Legislature to enact more stringent measures, so as to prevent or lessen ravages of infection. Dr. Arlidge discussed, in another paper, the medical organisation of the Factory Acts; and Dr. Lewis urged the necessity for the regular inspection of all schools, both public and private. A discussion followed, the impracticable character of the proposal being urged by several speakers.

In the evening the Mayor held a reception at the Town Hall, which was largely attended by members of the Congress.

STONE-CUTTING MACHINERY.—At the first meeting of the session of the Society of Engineers, on the 2nd inst., at Westminster Chambers, London, Mr. Pendred, president, in the chair, a paper on "Stone-cutting Machinery" was read by Mr. Henry Conradi. The author noticed the ordinary stone-cutting as worked by hand, and other improved ones, and, finally, stone-sawing machines designed by himself, which have been made and used in France.

THE CITY OF NEW YORK.*

(Continued from page 298).

In this immense city it would seem as if there was no municipal surveyor. The water-courses are not regularly inclined, the sewers are insufficient, and they are seldom flushed or swept unless at some points exposed to view. Even before some of the best houses is to be seen exposed upon the side walk the kitchen refuse in a bulged barrel, that seems fixed there permanently. The middle of the street is a sink in which it is not rare to see the bodies of dead animals that nobody seems to care for removing. On the bloated belly of a horse that had fallen through fatigue has been seen a pushing inventor come one day to paste his announcements, presenting a double attraction to the curious. The paving-blocks, disjointed and warped, are frequently scattered in every direction, when not wanting altogether. At the least rain, puddles of water or of black and thick mud are formed, where one sinks to the knees. It is worse in winter, when a foot of snow remains for more than a month in one place. Every person then wears double shoes with india-rubber soles, fashion has wisely ordained that. It is impossible to describe these things—they must be witnessed. It is useless to take a carriage, for, besides that the service of street vehicles is most costly and primitive, the carriages go at a slow pace and jolt horribly. Do not try the omnibuses; they are value for little more, and have been seen to stop at a particular place, and refuse to continue their road. Take one of the street cars which run on the tramways.

The street cars furnish the mode of transport at once most economical, commodious and popular in New York. It is by the cars that the merchants and clerks descend every morning in troops from the upper part of the city where they live to the lower where are their offices, returning in the evening. It is here, as in London, the office is strictly separated and removed from the home or domestic hearth. For the moderate sum of 5 cents (25 centimes) the car transports you over a distance of several kilometres. They start from the 200th street and above, on the banks of the Harlem River, passing through the principal avenues. They are seen and heard everywhere. There are lines where they succeed each other every minute. It is not, as in Paris, where, although established for some years, the service of the tramways as yet attracts but little attention.

The car is an immense quadrangular vehicle carried on two pairs of cast-iron wheels, and drawn by two horses upon rails sunk in the roadway. The driver standing, without using the whip, guides by the reins, the horses being loosely harnessed. A break which works on the wheels, and is moved by means of a handle, serves to stop the car when necessary. On turning the corners of streets the rails are rounded in curves carefully calculated, and the car turns easily on the working pins of the axles. The horses are provided with bells like the Spanish mules, which announce from afar the coming of the vehicles. The other carriages and foot passengers must get out of the way; the carriages resuming afterwards their first position on the tracks of the rails in the space between which they run, which much facilitates their course and the draught of the horses. In the interior of the vehicle are ranged over all the length two seats, lightly stuffed or of open work, at the bottom a carpet of felt or matting. When all the places are taken people stand in the space between the two benches, there being straps of leather fixed to the ceiling running on rollers, into which you pass the hand (if their greasy aspect, from being so much used by others, does not disgust you) to help to keep the vertical position. It is the custom for travellers to glide into the vehicle while running at a trot, and descend in the same way.

The car is seldom stopped except for ladies. No person is refused. When all the interior is full you can mount in front, on the platform, by the side of the driver, or at the back alongside the conductor. The latter goes and comes, collecting the fares which are uniform no matter what be the distance travelled. He holds in his hand a numbered paper and a small metallic apparatus. At each payment he marks the paper with this apparatus which works like a punch and detaches a small round piece, which falls in the interior of the mechanism, forming a heap which serves as a check, and at the same time sounds a bell. Fraud is impossible, every payment must be registered; the public is there and hears the apparatus sound, which wakens the forgetful, and the conductor pushes the elbow or touches familiarly on the shoulder if attention is not given quickly enough. The car is almost always full, it is made for 24 places, but carries sometimes up to sixty passengers. In the morning, but especially in the evening, about six o'clock, when people are returning from business, these vehicles present a curious spectacle, with bunches of human beings hanging on to them without noise, cry or dispute. Each person squeezes himself to make place for his neighbour, even those who enter with parcels are not refused. All are polite to ladies and rise silently to give them seats when they are standing. This is considered due to them and they do not thank for it, even by a smile or glance of the eye. A notice in the interior warns against pickpockets. On arriving at the destination the horses are unyoked and brought round to the other end of the car without more ado. There is no shaft to fasten the horses to, and the carriage being of symmetrical form runs freely in either directions without being turned.

There is an aerial or elevated railway which runs along in front of the houses in a single line at the level of the first floor, carried by columns of cast-iron fixed on the external edge of the side walks, and on which a portion of the service between 30th Street and the Battery is performed by cars drawn by small locomotive engines. For a time people hesitated to travel on this line in consequence of several accidents, in which the trains were precipitated into the street. Now all that is forgotten and the railway seems to work successfully.

The omnibuses or "stages" familiarly and briefly called "buses" run over the whole interminable length of Broadway. They are of a bulging, antiquated shape, ornamented outside and inside with gaudy pictures, female heads illuminated, and fantastic landscapes. As they are smaller than the cars the fare is double, and they are also regarded as more aristocratic and the society more select. For instance, a lady could not risk herself in the cars which run along the quays, traversing the populous quarters—not that the society is rude or noisy, but that it is not select, the clothing of the passengers is not very clean, and the odour which prevails is often insupportable. In Broadway, however, there pass every minute three or four of the omnibuses above referred to, which, in the afternoon, are often full of ladies, who go to pay their visits and do their shopping. It is said that at one time it was the fashion for them when they could not find places, to seat themselves on the knees of the other passengers. The omnibuses go slowly, jolting over the irregular pavement, the driver's head is shaded in summer with a huge white parasol fixed permanently, and ornamented with advertisements. When you wish to mount he loosens a strap attached to his foot and opens the door. There is no conductor. You throw your money into a little mechanical box screwed at the end of the omnibus, having a transparent crystal side. From time to time a self-acting interior trap raises and causes the money to fall into an invisible false bottom, closed by a padlock. The clicking movement of this trap which almost appears alive, and as if irritated by the small pieces

of nickel or squares of paper-money which refuse to fall at the first stroke, is very peculiar. There is no other control, and no instance of a traveller not paying, each is exposed to the observation of his neighbour, it is an example of self-government on a small scale. If you have to change money you sound a gong. A hand is presented through an opening, it is that of the driver, you pass to him your money, he returns you, by the same opening, without stopping the horses, a closed envelope containing small change for your note. The amount contained is printed on the envelope. You open it and throw into the box the proper fare. This mysterious box is of recent application, and has excited the indignation of the omnibus drivers, who previously used to steal part of the fares received. This was seemingly an understood thing. A short time since they all went on strike, and, to the great amazement of the *habitués* of Broadway, the antique vehicles ceased one fine morning to run. This lasted for several days, the drivers demanding an increase of wages as they could not steal any longer. As it was impossible to get on with occasional drivers, for the work is hard and requires much experience, the affair ended in a compromise, the proprietors being compelled to increase by one quarter the wages allowed to the old drivers. At one time these latter attacked and beat some novices who had been willing to take their places and were permitted to mount on the seats without having served apprenticeship. It is scarcely necessary to say that this species of enterprise is free, and that no police ordinance governs or limits the number of omnibuses.

IV. THE EMPIRE CITY AND THE AMERICAN WORLD.

Everyone who has seen the plan of an American city is aware that the streets cross at right angles like the lines on a chess-board. Throughout South America the system of *quadras* or rectangular blocks of houses was adopted from the first, as one can see on visiting Lima, "the City of the Kings" or Santiago, the beautiful capital of Chile; the same plan was soon also adopted in New York, when it had broken off from English traditions—that is to say, about the end of the last century. From that time, instead of bearing distinct names—such as Wall, Beaver, Pearl, &c.—the streets were numbered. To distinguish the directions, those were called "avenues" which went from south to north, parallel to the Hudson, to which the "streets" properly called are perpendicular. There was a sort of First and Second street and avenue, and the rest have followed in order. Already the 205th street is marked out on the banks of the Harlem River, and continues above that point. By this system a stranger lost in the middle of the city finds immediately without a plan the direction that he should follow, and more, as that which they call "a block" or detached square of houses (an *île* as we say in France) has generally, in the direction of the streets or avenues a fixed length; he can tell also the distance that he has to go to get from one point to the other. Since the streets transverse to the avenues succeed at distances of 75 metres, if he leaves 1st street to go to 100th he knows that he must traverse a distance of 7,500 metres or 7½ kilometres. The system is discovered once for all, and makes it easy even with eyes shut to find any address whatever. It is evident that this simple, ingenious and commodious system could only be adopted in a city built upon a plan laid out beforehand, and that it is inapplicable to Paris as well as to old New York. The New York of 1874, between the Battery and the Central Park (the *Bois-de-Boulogne* of the empire city) is divided into twenty-two wards, in each of which is a police-office and a telegraphic service to give warning in case of fire. When notice is given of fire anywhere, steam-fire engines are at once put in motion drawn by well-trained horses, and arrive quickly at the place of accident. The energy and promptitude with which they are worked are

* From the French of M. L. Simonin, in the *Revue des Deux Mondes*. Translated, with Notes, for the IRISH BUILDER by William Fogerty, F.R.L.B.A.

unsurpassed by the fire-brigades of any other city.

The first, second, third, and fifth wards are occupied by the business quarter, that is properly speaking the lower part of the city, "down town," or the south portion of New York. In the fourth, sixth and seventh wards, between Broadway and the East River, swarm the Italian emigrants, the *pifferari*, and the greater part of the dangerous classes of this variously-peopled city. In the ninth ward—but recently one of the centres of the fashionable world—still remain some ancient families, chiefly of Dutch extraction. The calmness of this quarter contrasts with the agitation of the neighbouring quays of the Hudson and the sober style of its dwelling-houses with the battered aspect of the sheds which are ranged along the great river. The French occupy almost altogether the eighth ward with their cafés, restaurants and shops. Our language only is heard. Laundresses, bakers and makers of artificial flowers, our compatriots, practise a number of small trades which do not even enrich them. They contrive to live as they best can in this vast pandemonium, in the movements of which they do not mix. They sigh for France, and only dream of returning there. Here in the eleventh ward are the Germans and Irish, as numerous in New York as the native-born Americans, and permanently established in their adopted country. Here the streets swarm with children. The Germans have imparted into the great city their musical clubs and beer gardens,* the Irish their pugnacious customs; the sons of Erin are in all political agitations, and determine by their votes the success of the democratic party, which has always ruled New York. The Lord Mayor of Dublin, who was recently received in America with ovations, complimented his compatriots, and remarked that New York was, after Dublin, the city that contains the greatest number of Irish. He might have added that it also contained the greatest number of Germans, after Vienna and Berlin. The other wards of New York are in part occupied by Americans properly called; here and there are entire streets inhabited by the negroes, or else by another agglomeration of the dangerous classes. By the time we arrive at the last streets, below the Central Park, we meet at the sides of the streets not yet fully marked out the miserable shanties of "squatters" dispersed amid ill-defined fields. These are generally Irish who live there with their families, goats and cows. These cause trouble, but must soon disappear according as new houses are required to be erected on the plots of ground. The soil has not yet been levelled, but it has been for a long time surveyed and taken possession of, and each lot (that is the space to be occupied by a house) has been already sold and re-sold. Speculation never rests, the mason will come soon and chase the "squatter" for ever.

We have referred to the epoch during which the fashionable quarter was in the lower part of the city, that could be seen up to 1840. Then the fashionable rendezvous and evening promenade was on the banks of the Hudson at the Battery, as in the palmy days of the Knickerbockers. Now, the Battery is no longer frequented, and at the Bowling-green in its neighbourhood no more players are to be seen. There are squares which break here and there the monotony of the streets and avenues, which are also planted with trees. People go in the afternoon, to hear the music and drive in carriages to Central Park, which is 8 kilometres from the Battery. This distance of 8,000 metres passed over in thirty years, can give an idea of the swiftness with which the city of New York has developed and advanced. It is at the rate of about 270 metres a-year. We remember to have seen the city in 1859 stopped at Madison-square, where is the Fifth-avenue Hotel; we found it again in 1870 at the environs of the Central Park, at 2½ kilometres from the first point. The

shrewd men of business who speculate in the price of building land know by instinct this economic law. Whoever purchases at New York a building lot, and can hold it for ten or twenty years, is certain to realise five times or even one hundred times his capital. The inhabitants of New York refer on all occasions to the astonishing progress of their city, and are justly proud of it. The park which they call Central, and which was laid out at the northern extremity of the city at a time when the magnificent embellishments of the *Bois-de-Boulogne* must have been running in their heads,—this park which we saw being laboriously planted in 1867, we found progressing in the following years, and in full vigour during the summer of 1874. Then also it commenced really to merit its name, because it is now well in the centre of this great city, this modern Babylon, which, confined within the first limits that were marked by a natural barrier, has for ever overstepped it, and will cover soon the County of Westchester itself with the masses of its innumerable houses. Already around the Central Park, grander and not less tastefully ornamented than the *Bois-de-Boulogne*, are arising everywhere long lines of habitations. Unhappily, as yet they disfigure the landscape, and raise sadly their high walls of red brick over a base of evergreen shrubs.

It is in the neighbourhood of this park that the fashionable world now prefers to dwell. The rich merchants, the great bankers, the business men, gorged with millions, come there to fix momentarily their sumptuous residences, until a new push of the shopkeepers—who rise with the wave, always mixing the population—forces them to remove further. Some people have thus been changing their domiciles for ten or twenty years! To say the truth, they have no home; they leave in a moment all the recollections of the past—those recollections which attach themselves to beloved birth-places, and which are so dear to delicate and sensitive souls. The *natalis solum* which made Ovid weep seems scarcely to touch the heart of an American. No one inhabits any more the house of his fathers or the place where he was born. But recently Fifth-avenue, between Washington and Madison squares, was the favourite quarter. A few years ago it was there that, at mid-day on Sundays, were to be seen coming from church, in their elegant toilets, all the belles of New York. But few fashionable people live there now, the invasion of modistes, tailors and restaurateurs, has chased the "aristocracy." We remember the venerable inventor of the electric telegraph, Professor Morse, bending under the weight of years and honours, who occupied in 1869 a magnificent house in 22nd street, near Madison-square, saying to us with a sad air, "I must sell this house, break up and go further off; commerce has invaded this quarter, until yesterday so quiet and respectable." Two years after, death removed the venerable man of science, and he departed to find elsewhere and for ever the repose that he desired.

At present it is between the 35th and 60th streets, and the 4th and 6th avenues that it is most fashionable to reside. The Fifth avenue, between these points, is the quarter *par excellence*, even to its junction with Madison-square—that is to say, 26th street. It is in this district that the rich merchant, Stewart, built his marble palace, at the corner of 34th street. At 60th street commences the Central Park. The streets which lie between the 26th and 28th were till recently dear to the fashionable world; they have been partly abandoned to gaming houses, and, worse still, where the dissipated hold all night their sittings *en permanence*. New York is certainly the most licentious city of the two Americas.

(To be continued.)

ORNAMENTAL ART.—In connection with the South Kensington Science and Art Department, Dr. G. G. Griffin has commenced a course of forty lectures on "The Historical Development of Ornamental Art, with special reference to Æsthetics."

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

THE City of Dublin during the eighteenth century gave birth to some curious clubs and societies, composed not only of "dare-devils," but of perfect "limbs of the devil." The celebrated George Berkeley, Bishop of Cloyne, in "Discourse addressed to Magistrates and Men in Authority, occasioned by the enormous Irreligion of the Times," first printed in 1736, takes notice of some of these infamous clubs, and inveighs against them in strong terms. Here is an extract:—"But there cannot be a higher or more flagrant symptom of the madness of our times than that execrable fraternity of blasphemers [*The Blasters*], lately set up within this City of Dublin. Blasphemy against God is a great crime against the State. But that a set of men should, in open contempt of the laws, make this very crime their profession, distinguish themselves by a peculiar name and form a distinct society, whereof the proper and avowed business shall be to shock all serious christians by the most impious and horrid blasphemies uttered in the most public manner,—this surely must all thinking men abhor. It is a new thing under the sun, reserved for our worthy times and country." We know not whether the "Hell Fire Club," a society which Dublin could also boast of in the last century, was the offspring of the former, or the former of it, or one quite distinct. The members of the "Hell Fire Club" went further than simply cursing and swearing; some of the members were guilty of the most frightful orgies, and others it was said were wont to try the effect of fire on their body or limbs, as a qualification for their bearing it hereafter. There was in the early part of the present century, among old octogenarians many curious stories current about the doings of the "Hell Fire Club," some doubtless exaggerations, but others quite true. The last Lord Santry was said to be a member, and one of the stories in the mouths of the people concerning him was, that he and other members in their drunken fits, seized a poor man, plied him with whiskey by pouring it down his throat till it returned to his mouth; then attaching a light, and thus burning him. Whether this hellish transaction was really attempted it is impossible to say. It is with this story that Lord Santry's prosecution is sometimes connected. It is represented also that the prosecution failed from a threat made by his lordship to starve Dublin for want of water. The story in the mouths of the people was to the effect, that the main supply of water for the City of Dublin was through a river or stream passing through his lordship's estates; and that he threatened to cut off or divert this supply if he was prosecuted with rigour. We must let our readers compare this account with the one usually published in connection with the trial of Lord Santry and other belongings. Long after the extinction of "The Blasters" and the "Hell Fire Club," the city had other disreputable organizations, more decent in name, but not far removed from their predecessors in conduct. The rich formed clubs, and the poor used them in the shape of shillelaghs, and, consequently, we had a number of factions in the old city, particularly on the south side. "The Pinkindies," the Liberty and the Ormond Boys, the bravos and roughs of Kennedy's-lane and Marrowbone-lane, the Trinity "College Boys" as wild, wicked, and lawless betimes as their humble brethren of the stalls and shambles. North of the Liffey, even a good way into the present century, and in our own memory, had its fierce factions in the locality of Pill-lane and Cole's-lane, and in which the Amazons of both localities took a lively interest. The "Hulk" was then a term of omen in Dublin, and was only a stepping-stone to the convict-ship and "Botany Bay." Botany is now studied at home at Mountjoy, Spike Island, and elsewhere, and the grandsons and great grandsons of men who broke into houses and brained "bulkies" in the streets of Dublin, are now large landed pro-

* The term "garden" in New York is used in a peculiar sense, and is applied to liquor saloons and music halls.

prietors and men of title in Van Dieman's land and other parts of Tasmania. They not only left their country for their country's good but for their own good. Many a great granddaughter of both Dublin and London, grandsires, and great grandsires, who were transported to Botany Bay, have gained eligible matches. Those who married them were not particular in inquiring after their parents' lineage. Being in search of money they succeeded in their quest, and settled down to enjoy life satisfied. Time purifies all things, and it does not seem fair that the sins of the ancestor should be visited on his descendants.

We have in our previous notes made some remarks in reference to the Irish language, and our desire for seeing it taught in our schools and colleges. We ourselves must confess that we have but a very small smattering of the mother tongue, but our love for it withal is large. In his second edition of "The Druids, Ancient Churches and Towers of Ireland," the Rev. Richard Smiddy appends several valuable "Notes" on Irish words, and for what follows we are indebted to that work.

The Latin word *lacus*, "a lake," comes from *loch*, "a lake," of the Celtic. The roots of it are, *lo*, "water," and *achadh*, "a field." In itself no root is found for the word. The Latin word *villa*, "a village" or "house," is derived from the Celtic word *baile*, "a village," the root of which is *boll*, "a place," and *i*, "a country"—that is, a definite place; or perhaps from *balla*, "a wall," and *i*, "a country"—that is, a circumvallated or walled place. *Polis*, "a city," of the Greek, is from the same root. The word *lingua*, "a tongue," comes from the Celtic *teanga*, "a tongue," of which the roots are, *dean*, "to make," and *guth*, "a voice." It was originally written in Latin *dinquā*, "the voice maker." The Latin word *bellum*, "war," comes from the Celtic *bualadh*, "war," which is formed from *bualim*, "I strike." *Scutum*, "a shield," comes from the Celtic *sgeath*, "a shield," and which also means in the Celtic a basket of wicker-work of the materials of which shields were originally made. The Latin word *nil*, "nothing," is formed from the Celtic *ni-fhuil*, "there is not" or "negation." *Aetas*, "age," of the Latin, comes from *aos*, "age," of the Celtic; and *caelum*, "heaven," is formed from *ceal*, "heaven," of the Celtic. Max Müller is mistaken in deriving *age*, "age," of the French, from the Latin *ætas*, "age." It is derived from the Celtic *aos* or *aoise*. In old French *age* was written *eage*, which comes near *aoise*, pronounced *eeshe*. In the Sanskrit it is *ây-us*, which would appear to be a mere form of *aoise*, of the Celtic, showing that these two are kindred languages. The Latin word *scribo*, "to write," comes from the Celtic *sgriobh*, "to write," and also "to scrape" or "score." *Grapho*, "to write," of the Greek, comes from *grafaim*, "I scrape," of the Celtic. The Latin word *liber*, "a book," comes from *leabhar* of the Celtic, the roots of which are, *leigh*, "to read," and *abhar* means "a matter"—that is, the thing with which to read. This has a clear and definite meaning, which certainly the derivation of the word by the Latin scholars has not. Even *biblion*, "a book," of the Greek, could with greater propriety be derived from the Celtic than from *biblos*, "the skin of a plant." *Biblion*, if written *birilion*, would have the same roots *abhar* and *leigh*, "the means to read." Books were written certainly before the skin of a certain plant growing in a particular country was discovered as a material to write on. From *dom*, "a house," of the Celtic, comes *domos* of the Latin, *domos* of the Greek, and *doma* of the Sanskrit. The monosyllabic *dom* is manifestly the primitive word, and from it comes "house" of the English. *Turris*, "a tower," of the Latin, and *purgos* of the Greek, come from *tour*, "tower," of the Celtic. The roots of *tour* are, *tigh*, "a house," and *ur*, "heavens"—a house of the heavens, or an elevated structure. The name of a spire in

the Celtic is *fith-neamhuigh*, "the spear of the heavens." *Edo*, "to eat," of the Greek, and *edo* of the Latin, come from *ith* of the Celtic. *Ovum*, "an egg," of the Latin, comes from *ugh*, or *ubh*, of the Celtic. The Latin word *vellus*, "a fleece," comes from the Celtic *ollann*, "wool," the roots of which are *uadh* and *lan*, "covering." For want of a root, Latin scholars derive *vellus* from *vello*, "to tear," because it is sometimes torn from the hide! The Latin *vicus*, "a village," comes from *fich* of the Celtic; and *acer*, "sharp," of the Latin, from *gear*, "sharp," of the Celtic. *Dies*, "a day," comes from *dia* of the Celtic. *Thura*, "a door," of the Greek, comes from *dor*, "a door," of the Celtic. *Terra*, "land," of the Latin, comes from *tir* (pronounced *teer*) of the Celtic. *Pater*, "father," of the Greek and Latin, comes from *ahir*, "father," of the Celtic. *Malher*, "mother," comes from *mathair* of the Celtic; and *frater*, "brother" or "relative," from *brathair*. *Zeus pater* comes from *tuis-ahir*, "the first father," of the Celtic, as he was the first father of gods and men.

We shall stop here for the present with our Celtic derivations, but shall return to the question again and again. Latin and Greek scholars may not agree with the Rev. Mr. Smiddy in his derivations in all points, but he is nevertheless fully justified in not allowing the Celtic tongue to play "second fiddle" while he can bring forward so many deep roots of the old Celtic tongue.

Annals in relation to St. Patrick's Cathedral state that part of it was burned in the year 1370. In this very year the Annals of Dublin state that the foundation of the steeple was laid by Archbishop Minot. There must have been two burnings within a few years; for the Annals of the City say that the cathedral was burned in 1362, and rebuilt in 1364 by the aforementioned archbishop, who subsequently built the steeple. Be that as it may, an ancient registry, which relates this accidental fire, affords us a curious illustration of the cheap labour of the times. Sixty straggling, idle fellows are reported to have been taken up and obliged to assist in repairing the church and building the steeple. Doubtless, while employed they were fed, but when the work was completed they had no resource than to return to their old trade of begging. Poverty, it is said, is the worst of crimes in the eyes of some folk. For begging the discharged workmen, previously employed in the work of "restoration," were banished out of the diocese, by Robert de Wakefield, in the year 1376. Bell, in his notice of St. Patrick's Cathedral, in alluding to this event, writes: "This arbitrary mode of employing and relieving the poor throws some light on the cheap method they had of erecting churches in those days, and certainly does not do much credit to the justice, the feelings, or the manners of the times." Churches are not built or "restored" in our days by such methods of cheap labour, but a very considerable amount of begging is resorted to by rectors, vicars, and new-fledged curates. The clergy of all churches are capital beggars, but, with few exceptions, execrable "restorers." 'Tis the poor still, in many instances, who build the churches, and in but a few churches have they free seats. Begging in the pulpit, in some communities, is carried a great deal too far, and funds collected and expended for utterly spoiling churches, and in the expenditure of which the contributors are allowed no voice is the reverse of honourable. Although it be heresy or high-treason to say so, we think there ought to be a periodical audit of the moneys obtained from the public for church purposes. We do not speak in relation to any particular church, but all churches. Some church building transactions seem to have no end, and no sooner is one want supplied, another is created. We go in for good and needful improvements, and, while respecting religion, we cannot allow the interests of architecture and good building to be injured at the hands of the

clergy no more than that of the laity. We can boast, with a justifiable pride, of our ancient ecclesiastical edifices, strong and enduring, like the Christianity they symbolise; but, alas! how many of our modern jejune Gothic structures, built for the passing glory of men and not with a true love of God, are destined to last like the former. Can we say of our ancient churches and abbeys only *materiam superabat opus*. Aye, more; materials and workmanship were equally good, but in these days they are often equally bad.

THE 81-TON GUN.

THE trial of the 81-ton gun for range and accuracy commenced at Shoeburyness on Wednesday last. On Tuesday evening notice was given to the inhabitants of the village that the huge weapon was to be fired on the following day, a recommendation being made that all windows should be left open lest the concussion of the discharge of more than 3 cwt. of powder (the charge is 370 lbs.) should break the panes. The arrangements for loading were simple and efficient; a pair of 18-in. guage rails running from the bank above the beach, where the monster gun lies, down to the firing platform. A "Gibraltar gun" placed transversely at the summit was used to lift the 1,700 lb. Palliser projectiles, which were slewed and deposited (singly) on a small iron truck; a wooden case, also on wheels, received the cartridge, and, the trucks being coupled, the little "goods train" ran easily down the incline of rails, checked by a "preventer" rope. The first round was fired at about ten minutes past twelve, electricity being used as a means of ignition. To the immediate spectators, mostly congregated on the bank some 15 ft. above the axis of the gun, the shock of the discharge did not seem to exceed greatly in intensity that of the 38-ton gun. In the village, however, it was otherwise; a plate-glass window nearly a quarter of an inch thick in a grocer's shop was completely fractured; in some of the small cottages the window-sashes were jerked out of their frames, and numerous ceilings were cracked. We understand that as the village was built after the establishment of the artillery ranges, no legal claim for damages is tenable against the Government. Of the equity of such a position there can be only one opinion. The projectile meanwhile sped over the expanse of sand, the time of flight (i.e., the period elapsing between the departure of the shot from the muzzle to the first graze), taken by an officer of the Experimental department, being about 11½ seconds; elevation 7°, and the range a little under 5,700 yards. In trials for "range accuracy," strangely enough to the uninitiated, no attempt is made to strike a mark. It may not be out of place to describe here the method obtaining at Shoeburyness for deciding the accuracy of a gun, as explained to us. A certain number of rounds are fired with the same weight of projectile and of powder, and the same elevation. The range of each shot is observed, also the deviation to the right or left of an imaginary vertical plane through the gun's axis; from these data a rectangle is constructed, showing the smallest space within which all the shots fired would have lodged, and, consequently, all future shots would probably lodge. Naturally the smaller this space the greater is the accuracy of the gun. Neglecting one shot of a very erratic character (due, it is conjectured, to some defect in the telescopic sighting arrangement), the probable rectangle of the 81-ton gun, with elevation 7°, measured in round numbers 15 yds. by 2 yds. (14.8 by 1.8). This, in plain language, shows the gun, well handled, to be capable of striking a 45 ft. cutter at a distance of over three miles. To ensure the safety of the shipping, the precaution was taken of posting a Government tug at sea to warn vessels of the danger of approaching within 12,000 yards (about 6½ miles) of the gun.—*Broad Arrow*.

WORKMEN'S HOMES, AND HOW TO IMPROVE THEM.

THE Recorder of Dublin, in opening the quarter sessions on Wednesday last, made some very pertinent remarks, which are but a repetition and endorsement of what has been over and over again repeated in these columns. We hope the Recorder's words will have some good effect; for there can be no doubt that crime and misery are traceable to wretched homes. Intemperance paves the way, and crime follows very often indeed. "Crime," observes the Recorder, "far exceeded what it ought to be in such a city, in an age, and in a population surrounded by so many religious, moral, and civilizing influences. It was simply hopeless to expect any palpable decrease in the stream of crime unless they could effectually, or at least partially, stanch its abundant fountain of intemperance. The matter had, he believed, gone so far as to require the co-operation of all the better influences which sway society, and above all of the people themselves. First among the remedial influences was the sacredness of home, as thousands fled to the alehouse through the misery and unhomeliness of their homes. He hailed with satisfaction the passing of the Artisans' Dwellings Act. The houses in which most of the Dublin artisans live were the mansions that had been occupied by the wealthy of former generations, and were altogether unsuited for the classes by whom they were now occupied. The want of open spaces for recreation was also, he believed, a great cause of intemperance in Dublin, and he hoped soon to see this partially remedied."

We hope so, too.

It may not be out of place to mention here that the Artisans' Dwellings Company are determined not to let their project slumber. By our advertising columns it will be seen that tenders are invited up to the 21st inst. for the erection of their first block in Upper Buckingham-street. The plans have been prepared by Mr. Thomas Drew.

THE LONDONDERRY SCHOOL OF ART.

On the 27th ult. the first annual exhibition and distribution of prizes in connection with this institution took place in the Corporation Hall. The Derry School of Art, which is in connection with South Kensington, owes its establishment to the efforts of Mr. William Harte, C.E., and other influential local gentlemen. We are indebted to the *Derry Journal* for the following report:—

Some hundred and fifty or two hundred of the works of the pupils, and a few belonging to some friends of the institution, were on view in the hall. There was a large and respectable assembly, who were evidently much interested in the proceedings generally, but whose attention was principally directed to inspection and, in many instances, marked admiration of the pictures. Knowing that the great majority of the pieces were the productions of the students, it was patent to the most casual observer that there must exist in the locality a very large amount of talent for drawing. It was also noticeable that the female portion of our community were prominent in this respect, since their exhibits were not only the most numerous, but also the most excellent. Among the pieces greatly admired was a drawing from nature of an apple branch, by Mrs. Addey. It had been awarded a bronze medal by the Science and Art Department, and the justice of the award was well borne testimony to by the unanimous praise accorded to the picture by all who inspected it. Mrs. Addey exhibited several other much-admired drawings, especially a sea sketch after J. Steele, which deserves special credit. Second in point of excellence among the exhibits was Miss Annie Conboy, whose productions displayed undoubted talent. Her crayon shading of a large leaf was the best piece of its kind in the room, while her landscapes and pencil sketches were equally admirable. Miss Sewell, Miss Chambers, Aberfoyle; Miss Hart, Kilderry; Miss Williams, and Miss Lamb also rank high among the students of the school, and their pieces attracted deserved admiration. Among the other names attached to the drawings were—Mr. J. G. M'Vicker, who showed some very creditable productions in water-colour and sepia; Mr. J. R.

Talbot, whose pieces were also finished with evident ability and taste, his Italian boy being very tastefully executed. Mr. Gerald Clarke, who showed marked taste in his landscape sketches, and in his finished shading from a cast of a human head; Mr. William Barker, who stood foremost in mechanical and mathematical drawing; Mr. W. E. Pinkerton, Mr. James A. Williams, Mr. William M'Monagle, and Mr. George E. Wardlaw, all of whom deserve special mention. A monk's head, by Miss Chambers, was one of the most creditable productions exhibited, and proved unquestionable talent on part of that young lady. Among the pictures not drawn by students of the school, one by Mr. William Harte, C.E., county surveyor, received well-merited notice. It is a view of Muckish Mountain, County Donegal, and is one of a series of sketches to be made by that gentleman of views through the same county. It might be permitted to suggest to Mr. Harte the advisability of having some album photographs struck off of his present and future pictures of Donegal scenery. They would be well worthy of the trouble, judging of the finish his Muckish sketch shows; and, indeed, many of the other exhibitors might consider the same suggestion. It is not to be thought that the ladies and gentlemen mentioned are the only ones deserving credit, for indeed every drawing on view merits praise and particular notice did time and space permit.

At eight o'clock the Dean of Derry was moved to the chair. Having briefly addressed the meeting, he distributed the prizes to the successful students. Mr. Addey next explained the objects and utility of the school, and the assistance given it by the Science and Art Department. He dwelt on the benefits to be derived from a knowledge of science and art generally, but particularly by the artisan classes. The meeting was also addressed by Rev. A. C. Murphy and William Harte, C.E. The latter gentleman proposed a resolution pledging the meeting to use every exertion to make the School of Art in Derry a success, which was unanimously passed. After the close of the meeting the drawings were inspected by a large number of the audience.

[We trust that the artisans of Derry will, in future, more fully avail themselves of the facilities afforded by their local school of art. Technical education is now placed within their reach, and without it, and some fair knowledge of drawing, the artisan is a mere worker by "rule of thumb." Experience is good, but the journeyman who lacks technical knowledge works against the grain, and seldom works with safety.—Ed. I. B.]

OUR SANITARY CONDITION.

THE current number of our able contemporary the *Sanitary Record* contains a "Report on the present Sanitary Condition of Dublin, by our Special Commissioner." Be it known unto you, fellow-citizens, that

"A chiel 's amang ye takin' notes,
An, faith, he 'll prent it."

Although "our Commissioner" starts with telling the readers of the *Record* something about his "first impressions," we strongly suspect the writer is a gentleman who has already done good service in our city.

We can make room for but a few quotations from this, the first division of the Report:—"The stranger is dismayed at the dirty and neglected appearance of many of the principal thoroughfares, and further by the reflection that if these are so neglected what must be the state of the by-streets, alleys and courts where the poorer inhabitants reside." "We have personally solicited the assistance and co-operation of the Public Health Committee and its officers, the Sanitary Association, and many private medical men and others, who have long devoted their attention to the subject." It will thus be seen that the "Commissioner" has buckled on his armour, and already enlisted in his ranks such valuable aids as above. "We desire to offend no one, but at the same time it will be our duty to fearlessly criticise the actions and work of those public bodies which may have given cause for such treatment, should occasion

or the public good demand severe comment." After discoursing on death-rate, slaughter-houses, uninhabitable dwellings, &c., he proceeds: "Let us now consider what steps have been taken by the Corporation and the citizens with the view of remedying the serious sanitary position which Dublin undoubtedly holds. In the year 1866, a Public Health Committee was appointed to carry out the Sanitary Act of that year, and ever since that time it has been in office. Acting under its authority, there is a large sanitary staff consisting of a consulting sanitary officer, a medical officer of health, and city analysts, fourteen medical officers of dispensaries, being sanitary officers, a secretary and executive officer, fifteen sanitary police, a clerk, a disinfecter of dwellings, a keeper of the disinfecting chamber, and a keeper of the sanatorium for cattle, making a goodly total of thirty-six salaried officers. It may be asked how do they occupy their time, and how much of it is devoted to the sanitary work of the city? It will be one of our items to bring this point out as clearly as possible in the course of our inquiry."

HOME AND FOREIGN NOTES.

THE BELFAST STRIKE.—The smiths, painters, &c., of Queen's Island shipbuilding yard, who have been on strike for seven weeks, have returned to their work at a reduced rate of wages. The carpenters and other trades are still holding out.

NARROW-GUAGE RAILWAYS IN IRELAND.—At a meeting held in Ballymoney, County Antrim, it was resolved to promote a bill in the next session of Parliament for a railway between that town and Ballycastle. It is proposed to construct the line on a narrower gauge than has hitherto been introduced into Ireland.

STREET GARDENING.—The pruning of trees on the Thames Embankment, London, has been spoken of as "wretched hacking." The rearing of the trees in Sackville-street, Dublin, may be spoken of as frightful examples of parental neglect. They are full of cuts and bruises, and the cradle of their vegetation is likely to be their grave.

BELFAST.—A new wholesale drng warehouse has been erected in Victoria-street, for Mr. William Collins. The front is composed of Suffolk brick with black mortar joints, while the ground floor and dressings are of Dumfries red sandstone. In the key-stones of arches are finely-carved heads of Galen, Paracelsus, and Esculapius. The fittings throughout are of pitch pine varnished.

BUILDERS' TENDERS.—In response to the second advertisement for "repairs, improvements, and additions" to Dr. Tait's residence at North Dublin Union, seven tenders were sent in to the guardians, ranging from £540 to £276. The lowest was that of Mr. Patrick Callan, and was accepted conditionally, upon his giving security for the due fulfilment of the contract.

STREET PAVING.—"One Who Knows" writes to the *Daily News*: "A report has just been received by the Corporation of the city from the Commissioner of Public Works at New York, stating that the authorities there had just agreed to take up eighty miles of wood paving, it having proved a complete and costly failure. With such information before them the London authorities may well pause before incurring the heavy outlay proposed."

NEW SEWER TUBES.—A new article for the construction of main sewers has been introduced by Messrs. Sharp and Jones, of Poole, Dorset, proprietors of the Bourne Valley Stoneware Pipe Works. Large sewer tubes, of almost any dimensions, can be made, the material being a mixture of Portland cement and other material, to which is given the name of "rock concrete." The tubes are said to be applicable for water supply, and, besides the difference in the cost over iron pipes, they neither spoil nor are spoiled by the water passing through them.

FREE LIBRARIES.—At Cambridge the Free Library Committee, in their twenty-first annual report, state that there are now 21,053 volumes in the libraries. During the year there has been an aggregate issue of 49,248 volumes. Some good additions have been made to the Shakespeare Memorial Library. The Barnwell branch, like the Central Library, has been well patronised. What are the magnates on Cork-hill thinking of? Well, well; it would offend them to tell. The majority of them prefer a drinking public instead of a reading and thinking public.

The Limmer Asphalte Paving Company has just completed, in an incredibly short time, the asphalt-ing of Mary-street. Some of their former contracts, in London and Dublin, have given satisfaction. Mr. R. Worthington is the agent for Dublin of the Company.

THE VARTY.—The bursting of one of the main water pipes above Enniskerry has caused some temporary stoppage in the supply of water to the city. The assistant City Engineer (Mr. Andrews) is making all possible effort to remedy the failure. Several lengths of 33 in. pipes are being newly laid. A staff of men work night and day.

FREE DISTRIBUTION OF PLANTS.—It has been announced that the Bailiff of the Phoenix Park will, on and after the 23rd inst., distribute to any artisans, workmen, or persons of the humbler class, who may apply to him, the bedding plants in the People's Garden which will not be required for next season. The distribution will take place at the enclosed ground, near the glass houses in the People's Garden, between the hours of ten and four o'clock. The plants will be given in lots of twelve each. Each person applying to bring a slip of paper containing his or her name, address, and occupation.

INDUSTRIAL HYGIENE.—An offer of a medal in connection with this subject has been made by Mr. Benjamin Shaw, and has been accepted by the Council of the Society of Arts. The medal will be of the value of £20, and will be awarded every fifth year. The terms of the offer are as follows: "For any discovery, invention, or newly-devised method for obviating or materially diminishing any risk to life, limb, or health, incidental to any industrial occupation, and not previously capable of being so obviated or diminished by any known and practically available means." The first award will be made in May, 1877.

THE NATIONAL BYRON MEMORIAL.—By permission of the Lords of the Council a general competition for the execution of the Byron statue will be held, in the month of November, at the South Kensington Museum. Models are daily arriving from all parts of Europe; and as upwards of 100 sculptors (including some of the most famous in this country) have intimated their intention of competing, a keen interest in the result will be felt, not only in this country, but in most of the capitals of Europe. The exhibition will be opened on Friday, the 3rd November next. We are informed that no models will be received after the 31st October.

LONDON PARKS.—In addition to the great parks of London vested in the Crown, there are under the management of the Metropolitan Board of Works, as appears from their report, about 1,094 acres of public recreation-grounds, including Blackheath, 267 acres; Hampstead-heath, 240 acres; Finsbury Park, 115 acres; Southwark Park, 63 acres; Hackney Downs, 50 acres; Well-street (Hackney) Common, 30 acres; North and South Mill Fields, 57 acres; London Fields, 27 acres; Tooting Beck Common, 144 acres; and Tooting Graveney Common, 63 acres. The gardens on the Thames Embankment and in Leicester-square present 14 acres. The remainder of the 1,094 acres is made up of Clapton-common, Stoke Newington-common, and Shepherd's-bush-common.

HAND PAINTING AND ADDRESS ILLUMINATION.—The pupils in Mr. Cooper's studio in the Queen's Institute have just turned out a beautiful specimen of address illumination. It is in the form of an album, containing an address presented to the Rev. H. E. Noyes from the parishioners of Dundalk on his retiring from the curacy. The album is richly bound in morocco and gold, and lined with white poplin, and bears on its back the monogram of the recipient in gold-plated letters. The hand painting differs from the illumination usually to be found in addresses, in that, instead of being of mediæval design, it is illustrative entirely of flowers. The arrangement and blending of the colours is most effective, while the painting is executed with an exquisite delicacy and finish which reflects the greatest credit on the youthful artists.

AN EXPENSIVE REREDOS.—A new reredos is to be erected at Trinity Church, New York, in memory of the late John Jacob Astor, the millionaire, at the cost of 100,000 dols. It will be made principally of Caen stone, will be 28 ft. high by 35 ft. broad. The reredos will be filled with elaborate bas-reliefs of the events of the Passion week, arranged in chronological order. These representations are to be executed with the utmost skill which money can command. The altar proper is to be constructed of richly-coloured marbles of great rarity and value, ornamented in front with the designs of the pelican feeding its young, the "Agnus Dei" and angels. The panels will be composed of enamelled mosaics. In the centre of

the altar will be a Maltese cross composed entirely of precious stones. Mr. Wither, the architect under whose supervision this work is to be executed, has lately come over to this country for the purpose of perfecting his plans.

AN ABORIGINAL IDEA OF BANKRUPTCY.—One of the Australasian papers vouches for the following story, which it thinks too good not to be handed down to posterity:—A certain chief, a man of intelligence, and punctual in monetary matters with his pakeha neighbours, was lately a sufferer to the extent of some £30 or £40 by a man going through the court. In relating the affair to some natives whom he was visiting, he told them that he had lost his money by a man becoming "packarapu." This word rather staggered the aboriginals, who immediately demanded an explanation. It was given as follows: "A pakeha who wants to become a 'packarapu' goes into business and gets lots of goods and does not pay for them. He then gets all the money he can together, say £2,000, and puts it away where no one can get it, all except £5. With this he goes to the judge of the Supreme Court, and tells him that he wants to become a 'packarapu.' The judge says he is very sorry, but of course it cannot be helped, and he then calls all the lawyers together, likewise all the men to whom the 'packarapu' owes money, and he says 'This man is packarapu, but he wishes to give all he has got, and so he has asked me to divide this (the £5) among you all.' The judge thereupon gives £4 to the lawyers, and £1 to the other men, and the 'packarapu' goes home."—*British Trade Journal*.

REFORM IN DUNDALK TOWN BOARD.—In noticing the forthcoming election of Town Commissioners, the local *Democrat* says:—"It is universally admitted that a reformation in the constitution of the board is very much required, if that body is to be regarded as representing the trade, commerce, or intelligence of the town. That such a reformation will be effected at the approaching elections no one has the slightest expectations. Indeed some people appear to imagine that the most effectual way to reform the board, is by returning members whose only qualifications is the absence of that intelligence which is necessary for the efficient discharge of the duties of a Town Commissioner. This modern plan of "reform" has been already tried at former, and will, it is stated, be repeated at the coming elections. We are afraid such a scheme for the re-construction of the board will take a long time before it brings about the desired result, if it ever succeeds at all. It has had a fair trial, and up to the present it must be admitted it has failed, and it is difficult to see how it can have a better chance of succeeding in the future than in the past. If the people of the town wish to make the board what it ought to be, they should see that proper candidates are nominated at each succeeding election, and work energetically to secure their return. One of the first steps towards reforming our civic body should be the election of some of the Protestant gentlemen of the town. At present the board is, and has been for some years, exclusively Catholic, and as long as it remains so, it cannot be said to be a body representing the people of Dundalk. There are Protestant gentlemen in Dundalk who from their position and talents would be an acquisition to any of our local boards. They are interested in the welfare of the town, and as long as they are called on to pay municipal taxes they should have a voice as to how such taxes should be applied. We would respectfully impress on those who take an interest in reforming the board the necessity of having suitable candidates nominated at the approaching elections." [The above is recommended to the serious attention of our City burgesses, previous to the annual elections which take place on the 25th prox.—Ed. I. B.]

SANITARY AND OTHER NOTES.

At the Northern Police Court, William Hickey, Church-street, was fined £6 for selling milk adulterated with 35 per cent. of water.

A FEVER NEST.—An outbreak of typhoid fever has occurred at Padstow, Cornwall, where, in a population of some 2,000 persons, 200 have been struck down with fever.

A SEWAGE DIFFICULTY SOLVED.—At a meeting of the Dudley Town Council the Mayor reported that the Earl of Dudley had offered to take the whole of the sewage from the drainage of Dudley on to his farm, free of expense, and to find an engineer to undertake the preparing of the sewage scheme. The Council decided to accept the offer of his lordship. This will save the ratepayers £50,000.

A PRIZE FOR REDUCING THE DEATH RATE.—The King of the Belgians has announced to the President of the Health Congress his offer of 5,000

frs. to that city, local authority, or private association which shall, by improvement in the dwellings of the working classes, effect the greatest reduction of the death-rate at the lowest cost. The prize is to be awarded at the next International Hygienic Congress.

HEALTH OF DUBLIN.—The Registrar-General's return for the past week is to hand. We learn from it that the annual mortality was 15·9 in every 1,000 of the population. The number of deaths from zymotic diseases registered amounted to 22, against an average of 43 for the corresponding week of preceding ten years. The deaths from these diseases include 8 from fever (1 typhus and 7 typhoid or enteric), 3 each from scarlet fever and measles, 2 from whooping cough, and 5 from diarrhoea.

TO CORRESPONDENTS.

FINGLAS.—Reference to an old map of the city will show you the course of the minor rivers or tributaries mentioned, which pass into the Liffey, and which, of course, are long since covered over.

IRISH ANTIQUITIES.—A correspondent will most likely meet with copies of the works he requires at Mr. Kelly's, Lower Ormond-quay, or at Mr. O'Daly's, Anglessea-street.

A PROVINCIAL ARCHITECT'S ASSISTANT.—We know of no work giving a history of the rise and progress of "Jerry" building. For some insight into the vile trade, see our article "Building Reform" in present issue.

RATEPAYER.—Talk is of no use, unless it is followed up by action. It would not be difficult to replace some of the useless municipal representatives at next election, if a little honest exertion was made.

W. C. B.—Not exactly suitable. The same will apply to other matters sent, but acknowledged under different initials.

RECEIVED.—F. I.—A. W.—R. E.—Ormond—C. E. (Glasgow)—H. B.—J. Doyle—T. S. (London)—P. P.—M. R. A.—A Carpenter—B. C., &c.

NOTICE.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

Post Office Orders and Cheques should be made payable to Mr. PETER ROE, 42, Mabbott-street, Dublin.

RATES OF SUBSCRIPTION TO IRISH BUILDER.

(Town.)	s.	d.	(Post.)	s.	d.
Yearly	6	0	Yearly	8	0
Half-yearly	3	0	Half-yearly	4	0
Quarterly	1	6	Quarterly	2	0

Terms for Advertising may be known on application. Accounts are furnished quarterly.

EPPS'S COCOA.—Some time since, in a series of articles in these columns upon food, we spoke in terms of unqualified praise of Messrs. Epps and Co's "Prepared Cocoa." The opinion we then expressed as to its purity and nutritious qualities has been fully endorsed by the public, as shown in its increased and steadily increasing consumption. We believe that Messrs. Epps's Manufactories are now the largest of the kind in the three kingdoms, and the total quantity of "Prepared Cocoa" consumed at the present time approaches four millions of pounds annually. This result is not surprising. The dietetic properties of native cocoa are well known, but in the form prepared by Messrs. Epps, Homoeopathic Chemists, they are rendered additionally valuable, both on account of their increased nutritive power and digestible character.—*Civil Service Gazette*.

MESSRS. M'CONNELL AND MURPHY,
BUILDING SURVEYORS,
Measurers and Valuers of Architectural & Engineering Works.
DUBLIN: 59 RUTLAND-SQUARE.
BELFAST: 2 JOY-STREET.

ALFRED P. SHARP,
17 GREAT BRUNSWICK-STREET, DUBLIN.
Architectural Sculptor.

STONE AND MARBLE WORKS.
Pulpits, Fonts, Reading Desks, Reredoses, Communion Rails in Stone and Marble, fixed complete in all parts of the country.

CURTIS AND LEWIS,
Plumbers, Brass Founders, and Gas Fitters.
45 WILLIAM-STREET, DUBLIN.

N.B.—Heating by Hot Water upon the most recent improvements.

LONDON PORTLAND CEMENT.

SALMON, RICE, AND CO.
Are prepared to supply a very Superior Quality of the above, manufactured by the BURGH CASTLE PORTLAND CEMENT COMPANY (Limited), in Casks and Sacks, at the lowest possible prices, which, with Copies of Testimonials, &c., can be had on application.
Best Roman Cement; Mastic, do.; Orchard, do.; Plaster of Paris, Gypsum, London Washed, and Gilder's Whiting, always in Stock.
2, 3, and 4 CROWN ALLEY, DUBLIN.

The Irish Builder.

VOL. XVIII.—No. 405.

The Gas Question in Dublin.

FIRST ARTICLE.



AS is no longer a luxury, but a necessity. It would of course be possible, in the absence of a better form of illumination, to do without it, and return to oil and candle-light; but this would mean retrogression instead of progression. Many of the poorest towns in the sister kingdom have now their gas-works and the humblest cottages their gas-jets over the mantel-piece or elsewhere in needed places. Ireland to a great extent is still a candle-lighted country, and in thousands of our city tenement houses the tin candlestick with its tallow dip or the oil lamp may be seen doing service. Compared with the people in English and Scotch towns, our working people, when darkness falls early on winter evenings, are most disadvantageously placed. The evening tea and the later supper are partaken of in a state of semi-darkness; for a halfpenny dip, or even a mould, affords but a poor glimmer compared with a gas-burner.

But leaving aside the question of light in our working-class dwellings, and looking upon that supplied to our traders and shopkeepers, we are forced to confess that, compared as a whole, the illumination of our marts and workshops falls far below that of the sister kingdom. Our citizens are paying considerably more than in other towns and cities—may, an exorbitant rate—for their gas supply, and are receiving a light not much more than half as good. Is there any valid reason forthcoming why this should be so? Unhesitatingly we say that there is not; and that man is a dishonest man, no matter who he may be, who would stand up to defend the gas supply of Dublin, and its management.

It is not our purpose here to throw blame on single individuals or officials of our Gas Company, or accuse them of certain offences; but it is our intention to condemn in no unmeasured terms the manner in which the Gas Company of Dublin is at present acting towards our citizens. Where there are two or more companies, the public generally get fair play. When Dublin had two gas companies a few years since there was no monopoly. If the consumer felt aggrieved or was harshly treated, he could cut his connection with one company, and let them cut off his gas as soon as they liked, for the second company were ready to serve him, and sometimes with a better article. Since the supplying of the city with gas has passed altogether into the hands of one company, matters after a short interval have gone on from bad to worse. We will not describe in detail the chequered history of the present Gas Company—its alternating sunshine and shadow; its big dividends and its no dividends; its happy directors; its despairing shareholders; its luxurious-living officials; and then—hey, presto!—its looming bankruptcy and its final shuffle of the cards on

Cork-hill, where a card trick was played for its directors' salvation. The history of the "double shuffle" will be told some day, and the representatives of the people who only represented themselves put into the pillory.

The able pamphlet on "The Dublin Gas Question in 1876," issued a few days ago by Mr. John M'Evoy, relieves us from the necessity of stating many matters. He puts the whole question pertinently and tersely before the citizens and ratepayers of Dublin, and we would advise every one of them to read the pamphlet, for it is a question, and an important one, that concerns them much. Our own back volumes will show that from time to time we have not neglected to wake up the citizens to a sense of their duty in the Gas supply; but we hope that after Mr. M'Evoy's statement—clear, plain, and unambiguous—the ratepayers of Dublin will need no further appeals to rouse them to action, in their own interest.

While the gas companies in London and over Great Britain have for a series of years been reducing the prices of gas, the Dublin company has gone on increasing its price and lowering its quality. In Manchester in twenty years the gas has been reduced from 5s. 6d. to 3s. 1d., while in Dublin the only change had been from 16-candle gas at 5s. in 1852 to 20-candle at 5s. 6d. in 1872, and, as Mr. M'Evoy says, with a sliding scale downwards till 1877, when 5s. was fixed as the price for 20-candle gas. We have at present 16-candle gas at 5s., with a promise of a reduction to 4s. 9d. on the first of January next.

The citizens are aware of the attempt of the Corporation to take over the Gas Company, and how they failed to pass through Parliament a bill to enable them to do so. The improvements that were shown in 1872 to be necessary, have since been carried out by a "reformed board." £32,000 has been expended by the company on its capital account, £20,830 having been expended, we are led to believe, on "new buildings, manufacturing plant, machines, and condensers, connected with the manufacture of gas." All this expenditure, however, has not benefited the consumers one farthing. We have 16-candle gas substituted for 20-candle gas under the act of 1874, which has added one shilling per 1,000 feet to its cost.

Referring to Mr. M'Evoy's figures, we find that for the half year ending December, 1873, with 20-candle gas, 262,000,000 feet sufficed for private consumption in Dublin, Rathmines, and Pembroke. For the half year ending the 31st of December, 1874, the first of the 16-candle, 314,000,000 feet were required. This was an increase of about 20 per cent., owing to the necessity of consuming a larger quantity of gas of the lower standard to produce an equal quantity of light. In the case of the public or city lights, the increase was of course much larger, ranging from 5,590,000 to 7,870,000 feet in the corresponding quarters of 1873 and 1874. Can any man see evidence of a reformed gas supply in the above? Taking the London chartered companies supplying two-thirds of the metropolis, 3s. 9d. is the price of 16-candle gas, which will be reduced to 3s. 6d. on the first of the new year. The same standard gas is only charged at the rate of 3s. by the South London Metropolitan. In Glasgow, 27-candle gas is only 4s. 2d.; Liverpool, 20-candle gas, 4s.; Manchester, 18-candle gas, 3s. 4d.; Birmingham, 18-candle gas, 3s. 1d.; Edinburgh, 28-candle gas, 4s. 8d.; and at New-

castle, 16-candle gas is as low as 2s. 8d. Ought the cost of coal in Dublin make all the difference? Newcastle coal can be brought to the quays of Dublin, all freight and charges paid, for 18s. per ton. Is the Dublin Gas Company really paying between 22s. and 23s. per ton for their coal, and, it may be well asked, do the company, like ordinary citizens, buy their coal from Dublin coal factors by the single ton? It is shown by the accounts of the Dublin Gas Company for the last half year that the total expenditure per ton of coal is £1 16s. 0d., which, subtracting the receipt of 8s. 2d. for residuals, leaves a net expenditure per ton of £1 7s. Compare this with the South Metropolitan for the same period, which shows a total expenditure (including £2,017, the expenses of promoting a bill in Parliament, which in Dublin would be charged to the capital) of £1 11s. 2d. per ton of coal, residuals 11s. 9d., leaving a net expenditure per ton of 19s. 5d., or 8s. 5d. per ton less than what the accounts in Dublin show.

Anyone who knows aught of gas manufacture knows that the sale of residuals brings in a good income, which enables a company to charge much less for the supply of gas. How does the Dublin company compare with the London ones in this respect? Gas tar in Dublin sells for 1d. per gallon; ammoniacal liquor for 4s. per butt. In London, the South Metropolitan, the Chartered, and Imperial sold their gas tar at 3d. per gallon, and the London Gas Light Company received 2d. per gallon. For ammoniacal liquor the Chartered and Imperial received 7s. 4d.; London Gas Light Company, 8s. 2d.; and South Metropolitan, 6s. 9d. per butt. The Dublin management costs, however, £4,361, against £3,174, the cost of the South London Metropolitan, doing a much larger business. It might be noted here that in course of time the sale of residuals in Dublin will bring in a much larger sum than it does at present, when certain trade operations are commenced and when their value for several processes is better understood by our people. The average yield of residuals of all the London companies in 1875, as shown by a Parliamentary return, was 53 per cent. of the cost of coal carbonised. The Dublin accounts for the same year only show 33 per cent. It has since increased to 37 per cent.; but the London companies again show a great increase, ranging in some cases from 60 to 73 per cent. in others.

In Chapter V. of his pamphlet, Mr. M'Evoy thus puts the question, which we will give in his own words:—"The Alliance Company, charging 5s. or 4s. 9d., promises next half-year to become a 10 per cent. dividend-paying concern. Obligated to reduce its price to 3s. 6d. or 3s. 9d., the dividend should be reduced to 5 or 6 per cent. Now, as a question of justice between man and man, whether should the consumer be surcharged 25 or 30 per cent. upon his gas to make up a 10 per cent. dividend for the company, or should the company be obliged to sell gas at its value? Previous to 1874 and the act passed that year, the Alliance Company never paid 10 per cent. Commencing with 1867, the first year after the Alliance was formed, and going down to the last half of 1873, and adding all the dividends together, we have an average exceeding but by a small fraction 6 per cent. And for this 6 per cent. dividend or annuity the concern was actually sold or forced upon the Corporation in 1873. On the rejection

of the Corporation bill, the company, unable to pay any dividend at all, appealed to the Board of Trade for relief. That board, after considering their memorial, declined to comply with its prayer, on the ground that the management was admittedly so defective that an act intended for the relief of well-managed companies overtaken by the coal famine, did not apply to such a company as the Dublin Alliance."

We all know what next took place. The company went to Parliament, and succeeded in getting the act passed which now enables it to pay its large dividends, while defrauding the general consumers. We have no reform, nor can we have any until a determined move is made by the citizens to be no longer cajoled by the statements of their mis-representatives in the Press, on the board of directors, and on Cork-hill. The starting of a competing company, to bring the Alliance Gas Company to a sense of its obvious duty and to end its monopoly, may be a difficult task to undertake, but it is not an impossible one. The public voice, backing the action of the Metropolitan Board of Works in London, keeps the London gas companies from tightening the screw, raising their prices to swell dividends, and voting metallic thanks to their directors at the ratepayers' and consumers' expense. If a new gas company cannot be at once formed in Dublin, surely a Gas Regulation Bill can be easily carried should the Alliance Company not prove amenable to reason.

It is useless, under the present constitution of the Corporation, to think of finding relief by a renewed movement in favour of putting the gas supply under municipal control. To all intents and purposes our Dublin Gas Company is at present under municipal management—not for the good of the public, but for the benefit of a number of municipal magnates and their friends. Should bad management again threaten bankruptcy to the Alliance, there is no doubt a number of wire-pullers on Cork-hill would be equal to the emergency in shouting out for a corporate purchase of their interests at the public expense.

Poor Dublin! thus you are crucified between two bodies with the one head and tail.

SANITARY REFORMERS AND MORAL CORRUPTERS.

THERE has been always, and will be always, a numerous body of brain-pickers and literary pirates in this world. They hover around every great movement; they profit by every great undertaking; they never pioneer anything themselves; they are rather obstructives than auxiliaries until success is certain or nearly certain, then, and not until then, do the pretenders come forward to take the credit attaching to other men's life-long labours. The cause of Sanitary Reform was battled for long years in England by a few individuals whose names are well known; the daily Press afforded them no aid, and seldom a paragraph, and the very class of men who opposed Sanitary Reform most are now among its greatest advocates. The worst of the matter is, however, that those persons who have given their aid at the eleventh hour think it very convenient on their part to ignore the labours of others extending over many years. Justice, and justice alone, compels us here to acknowledge the labours of other men, while taking some credit for our own humble efforts in the cause of Sanitary Reform. Sufficient justice has never been

rendered to our London contemporary the *Builder* and its able conductor for services in the cause of public health. The *Builder* has been one of our first and greatest pioneers, and it still continues its good work, surrounded by many imitators which would probably be never heard of had it not mapped the way. Here in Dublin for eighteen years we have continually and persistently preached in the pages of the *IRISH BUILDER* the good cause advocated in the columns of our namesake for many years previous to our appearing on the scene. We had in this city to combat similar prejudices as beset the path of our contemporary across the channel. The daily or weekly Press for long years almost scouted the idea of Sanitary Reform. *Sanitas* was a word not to be found in their vocabulary, and in our Corporation, as well as in our Press, Sanitary Reform, as a public question, was almost ignored—in fact it was a tabooed question. During this time, be it known that some of our newspaper proprietors and editors, daily and weekly, were members of the Municipal Council, and being such, it might be thought they should have shown more interest in the public health. The gentlemen of the medical profession, except in some rare instance, gave the question of Social and Sanitary Reform the go-by. Some people are malicious enough to hint that doctors had an interest in opposing Sanitary Reform, but the cause having grown too strong for them, at last they were perforce obliged to join in and turn it to their advantage. Well, without going into the medical *pros* and *cons* of the case in detail, the fact is clear enough, now that some of our most demonstrative Sanitary Reformers are among the medical profession, and recent sanitary legislation has worked them signal service. They have indeed profited well, and will yet profit better, by the labours of men altogether outside of their profession, and it would only be bare justice on their part now and again to acknowledge their indebtedness to those who have preceded them.

The Sanitary condition of Dublin is a subject which has often given employment to our pen, and we are only too glad to welcome any honest effort in the same direction. At present a series of articles are appearing in our contemporary the *Sanitary Record*, which we hope will be productive of good, and they are worthy of perusal by our own citizens as well as by those in the distance. They reveal a scandalous state of unsanitary matters, and fasten the cause and shame on the shoulders of our Corporation. There are some statements in these articles of our contemporary which are new to us, and which we must honestly say are exaggerations; but there are many other matters not so. A reference to our back volumes will show that some of the charges preferred against the Corporation of Dublin were preferred over and over again by ourselves; and that the disgraceful state of many of our streets, both on the north and south of Dublin, was repeatedly pointed out by us. This was not done by us last year only or the year before, but every year for a number of years, and yet the Corporation of Dublin and the daily Press pretended to take no notice of the matter. We have these same newspapers now, when a journal in the distance has taken up the matter, endeavouring to take credit to themselves in a cause which owes them little or nothing. That inborn jealousy and low cunning which is characteristic of some of our Dublin newspapers, have prompted them to conveniently

ignore the services of a professional journal in their midst, which was labouring, with all the resources that it could command, to better the sanitary condition of this city. Betimes they had a word of praise for journals in the distance, when it answered a political purpose to quote them; but for a sanitary worker in their own city they could afford no word, though they did not scruple to steal in substance what they had not the courage or honour to quote in detail. The articles in the *Sanitary Record* are not the first, nor the twenty-first, exposition of the unsanitary features of Dublin on the part of a London journal. Our excellent contemporary the *Builder* has on several occasions published articles on the sanitary condition of this city, which we have quoted for the benefit of our citizens, though the daily Press here only made use of them when it suited their political ends. We owe our acknowledgments to some of the London daily and weekly papers, and also to some of the professional journals which have from time to time shown their courtesy by affording further publicity to articles which have appeared in the *IRISH BUILDER*. The Irish provincial Press and also the English provincial papers have to some extent shown like courtesy, and their public spirit contrasts honourably with the narrowmindedness evidenced by the majority of the Dublin Press.

We have been much amused by the perusal of an article in one of our Dublin morning journals, which has recently made a show of a little sanitary activity on its part. We do not know whether we ought to smile most at its graceful allusion to its own labours or its attempt at killing the *Sanitary Record* with kindness by mentioning its name in connection with its own mighty one. In the following paragraph from the *Irish Times* there are two words for itself and one for the *Sanitary Record*, for which our contemporary ought to feel duly thankful. Listen:—

"Already, following in our steps, though anticipating the sanitary purpose of this series of sketches, a London journal of acknowledged standing, the *Sanitary Record*, has begun to take up the very work we are now engaged on. With praiseworthy enterprise our contemporary has engaged a special commissioner to investigate and report on the sanitary condition of the city, and the results of his inquiries are even now being published in the columns of that journal. It is with unmingled satisfaction we welcome the co-operation even of a stranger in the good work, and we are not without hopes that great good will result."

The effrontery of some journals in our midst is something astounding. The *Sanitary Record* is only "following in our steps;" it has only "begun to take up the very work we are now engaged on." Now let us tell the *Irish Times* and most other Dublin morning journals that the cause of Sanitary Reform owes them nothing. They are more concerned about their circulation than they are of the preservation of the public health. There is one foul blot connected with their own pages which they ought to wash out, stamp out, or burn out, before they are entitled to be heard in the interest of social and sanitary reform. It is a good thing to be a sanitary and social reformer, but it is a vile thing to be a moral corrupter. The pages of several of our Dublin daily and weekly journals have been for years corrupting the public mind by the publication of obscene quack advertisements. London swindlers, some of whom have been convicted, find our morning journals here an open *sesame*, and by this liberty they are enabled to rob and make a fat harvest by their nefarious and infamous practices. The

advertising columns of these daily and weekly papers are open to Dublin as well as London quacks and other swindlers, and the proprietors or managers of these papers must know that they are thus acting as agents for swindlers to defraud the public. We need not mention the names of these advertisers. When the daily press of Dublin reform their own pages, and cease to corrupt the public morals, it will be time to listen to their advocacy of sanitary reform. So long as they disgrace their columns in the manner we have indicated, we repudiate their tardy sanitary advances and the "deep damnation" of their advocacy and contact.

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SOCIAL SCIENCE AND ART.

THE Social Science Congress, which concluded its sittings since the date of our last issue, was noteworthy from the fact that art for the first time had a section allotted for its discussion. Elsewhere we publish some able papers delivered in this department. The congress, as a whole, may be said to have been a successful one. The exhibition of sanitary and domestic appliances, though not exactly a portion of the association's programme, yet it is the outcome of the teachings of the association, and in future it ought to be made part and parcel of every yearly congress. During the late congress the exhibition was visited by large numbers of people. The exhibitors were upwards of a hundred, but many exhibits had to be excluded for want of room. At the formal opening of the exhibition of appliances Mr. George Godwin occupied the chair, and during his address mentioned several of the more important sanitary appliances on view. In conclusion, he impressed on his hearers the importance of giving increased attention to sanitary matters generally, saying that thousands of people had died in Liverpool and elsewhere from the want of good sanitary arrangements.

"THE CLEANSING OF THE STREETS."

AN "old hand," finding that there is a difficulty experienced in keeping the streets clean, suggests through the columns of a daily contemporary, "a plan which has been found to work exceedingly well" "in a city of larger size than even Dublin." Here it is:—

"The establishment, at moderate distances apart, in every street which is at present used as an ashpit, of wooden or iron bins, each capable of containing from one to three cartloads of garbage. Into these bins every one who would otherwise cast ashes or vegetable refuse into the streets should be obliged to deposit all such refuse, and any one caught [by the police] throwing it on to the roadway should be severely punished. Carts might be sent round at least once daily, and, all refuse being collected into known fixed spots, the scavengers might easily remove it before it has time to ferment, or become in any way noxious to the health of the inhabitants. The removal would be much facilitated if the bottom of each bin were placed as high from the ground as the upper part of the carts used for removing the rubbish. (!) If made so that one end of the bin could be let fall, and the upper part of the cart be brought close up to it, one man standing in the bin could push the whole of its contents into the cart in a very little time and without much trouble. (!) One man would, in fact, be enough for each cart. Steps would, of course, be required to allow of people emptying their baskets into the bins. As these bins are only intended for ashes and vegetable refuse, the throwing of ordure of any kind into them should be made punishable by law."

What does the City Engineer say to this "old hand's" plan? As these elevated wooden or iron bins would only be placed in the back streets of the city, "at present used as ashpits" (!), they would not require to be of an ornamental character! We would recommend this "old hand" to look out for

either the English or Scotch "Commissioner" at present amongst us, and perhaps he could readily discover that "two sheeps' heads are better than one."

ARCHITECTURAL ASSOCIATION (LONDON).

THE opening *conversazione* of this association took place on the evening of the 27th ult., at the rooms of the Royal Institute of British Architects. The walls of the various apartments were adorned with drawings and etchings illustrative of different periods of art. The president (Mr. Henry C. Boyes) in the principal hall delivered an interesting address, dealing with the rise and progress of architectural art, and tracing its early history in connection with the history of the Bible. In treating his subject in connection with the present time, he expressed his great regret that society did not dispense with that constant changing of fashion which prevailed alike in art as in dress. In both departments it not only produced change itself for the sake of variation, but vulgar imitation, which made such variation ridiculous. After the distribution of prizes to the successful competitors during the past session, the company promenaded the rooms and galleries. The following is the syllabus of the papers, &c., to be read during the coming session:—

Nov. 10.—Address by the President, and Reports from the various Classes, &c.

Nov. 24.—"Binocular Perspective and Natural Drawing." By Mr. A. Frere.

Dec. 8.—"The Architectural Treatment of the Roof." By Mr. H. H. Statham.

Dec. 22.—Discussion upon some proposed New Rules.

Jan. 12 (1877).—On "Architectural Illustrations." By Mr. Maurice B. Adams.

Jan. 26.—On "Modern Building in the City." By Mr. T. Chatfield Clarke.

Feb. 9.—On "Half-timbered Houses and their Construction." By Mr. C. G. Maylard.

Feb. 23.—On "Early Churches in Asturias." By Mr. S. Flint Clarkson.

March 9.—On "The Causes which influenced the Arrangement of Mediæval Churches and Public Buildings." By Mr. H. W. Brewer.

March 23.—On "The Roman Baths." By Mr. R. Phené Spiers.

April 13.—Members' *Soirée*.

April 27.—On "Architecture as Contributing to Pictorial Art." By Mr. Thomas Williams.

May 11.—On "The Application of the Artisans' and Labourers' Dwellings Improvement Act, 1875, to some of the Courts and Alleys of the Metropolis." By Mr. Lewis H. Isaacs.

May 25.—"Notes upon Cornish Churches." By Mr. P. J. St. Aubyn.

June 8.—"The Study of Nature applied to Coloured Decoration." By Mr. J. D. Crace.

June 22.—On "Roman Amphitheatres." By Mr. W. Hilton Nash.

"CITY FRANKING."

THE annexed advertisement, which appeared in one of our daily papers, suggests a few remarks:—"Irish Franks—Wanted to purchase or exchange 'Franks' of members of the Irish Parliament; also those of Irish members since the Union. Apply to—," &c. It may not be generally known that the Municipal Representation of this City had formerly the privilege of franking letters in the absence of the Parliament. This privilege was often abused by members of Parliament, government officials, and corporators. In Cox's *Irish Magazine* for May, 1811, a noted Dublin hatter receives a poke in the ribs in the following fashion:—"Shortly after the Union Mr. J.—[Jewster, perhaps], an eminent hatter, of Dublin, was elected to represent the corporation of hatters [the Guild of Feltmakers] in the Common Council. The morning after his appointment, some wag, a neighbour of his, waited on him to congratulate him on his appointment, at the same time requesting he would favour him by franking a few letters for the penny post, a privilege, which, in the absence of Parliament, was invested in the Corporate Representation. This proud authority of franking

poor J. believed, sat down and wrote on a bundle of covers, which he continued to do daily until the vast number that passed into the Post-office attracted the notice of the officers of the establishment, who were cruel enough to strip Mr. J. of his imaginary importance, by writing a sarcastic letter advising him not to continue dirtying letters intended for circulation, besides embarrassing the carriers by the obscurity which the affected dignity of his scrawl threw over the superscriptions." This rebuke to the noted hatter was no doubt felt.

The general penny-postage system, inaugurated by Sir Rowland Hill in 1839–40, while affecting a great reform, put an end to an enormous amount of meanness and jobbery covered by the "Frank" system.

BOOKS RECEIVED.

Monasticon Hibernicum; or, a History of the Abbeys, Priories, and other Religious Houses in Ireland, &c., &c. By Mervyn Archdall, A.M. Edited, with extensive Notes, by the Right Rev. Patrick F. Moran, D.D., Lord Bishop of Ossory, and others. Vol. II. Dublin: W. B. Kelly, Grafton-street.

The Timber Merchant's and Builder's Companion. By William Dowsing. Third Edition. London: Crosby Lockwood and Co.

Wood Conversion by Machinery. By John Richards, M.E. London: J. and W. Rider.

The Timber Merchant and Builder's Vade Mecum. By George Bousfield. London: J. and W. Rider.

The Life of Christ. By F. W. Farrar, D.D., F.R.S. Serial Edition, in monthly parts, Illustrated. London: Cassell, Petter, and Galpin.

NEW DIOPTRIC LIGHT.

ON the 21st ult., Prof. Tyndall, accompanied by T. H. Farrer, Esq., Secretary to the Board of Trade, inspected, for the Commissioners of Irish Lights, the new dioptric light of the first order, erected on the Island of Aranmore, County of Donegal. This light, just now erected to take the place of the former second order light, is dioptric of 16 sides, arranged to show a powerful flash of red light or white every 20 seconds. It is not easy to determine who the original inventor may be, but the calculations involved in arriving at the amount of red light that will balance the white, so as to make each alternate flash equal, are at once abstruse and ingenious. Mr. Sauter, of Paris, planned a light many years ago for Wilkins, of London, who supplied it to Malta, and there have been several since, but the most improved to the present time has been the Wolf Rock light, coast of Cornwall, of which the Aranmore is an improved modification. The glass, from the works of St. Gobain, is of the highest refrangibility yet manufactured for light-house purposes, and the red portion has been all produced by an unusual large admixture of gold. The number of lenses making up this superb whole is as follows:—Eight upper-inclined panels, each with 18 lenses, 144; 16 central panels, of 17 lenses, 282; and 16 lower panels, of 8 lenses, 128; making a total of 554 out side, and in addition there are 24 panels of gold red glass. The clock-work and all the arrangements are most perfect of their several kinds, and do great credit to Messrs. Edmundson and Co., who are the contractors, and the first Irish house who ever erected such an apparatus. The whole has been carried out under the superintendence of John S. Sloane, Esq., C.E. to the Irish Lights Commissioners, Dublin.

THE LATE ASSISTANT TOWN CLERK.—Since our last issue the death of Mr. George Grice has taken place. At a meeting of the Town Council the following resolution was moved by Mr. Maclean and seconded by Mr. Brooks, M.P.:—"The Council having heard of the death of their valuable officer, Mr. Grice, desire to express their deep regret at the loss the Corporation has sustained, and the still greater loss his family has suffered by this sad event, and now resolve that an address of heartfelt sympathy be conveyed to his bereaved widow and children, and the desire and intention of individual members of our body to alleviate as far as they can the sufferings that have fallen upon those near and dear relatives he has left behind."

CONVENT AND SCHOOLS, BALLAGHADERIN, COUNTY MAYO.

WE publish with this number a perspective view of the convent and schools in course of erection for the Most Rev. Dr. MacCormack, Bishop of Achonry. The convent, with chapel, is nearly complete; the schools have not as yet been commenced. The walls are built of the district grit stone; the quoins, dressings, bands, &c., being executed in chiselled local limestone. The roofs are covered with Bangor slates, having bands of green slates cut to pattern. The contractor is Mr. Thos. M'Glynn, of Ballaghaderin; Mr. Troy acts as the clerk of the works. The whole is being carried out from the plans and under the immediate superintendence of Mr. J. J. O'Callaghan, F.R.I.A.I., architect, Dublin.

CORRESPONDENCE.

MR. DEANE'S REPORT ON NATIONAL MONUMENTS AND ECCLESIASTICAL RUINS, AND A NOTE THEREON.

TO THE EDITOR OF THE IRISH BUILDER.

SIR.—When it was announced that H. M. Government would appoint a Superintendent of National Monuments, 'that,' said an eminent archaeologist to me, 'is simply delightful; not inasmuch as the preservation of the ruins is concerned, but in that we shall have in that superintendent a tangible personal target whereat we can sling our stones, and discussion of things archaeological and general liveliness among us archaeologists all round will result thereby.' In your journal of September 15th, Mr. Arthur Hill, of Cork, had a fair shot at one statement in Mr. Deane's report. For such criticism I know Mr. Deane is prepared, and, accepting the situation, invites, I have no doubt, healthy discussion. I desire, too, as different points in his interesting report strike me, to have my shot at any point in his statements which appears to me questionable.

I read at page 69 of that report* this, to me, astonishing statement as touching Mellifont Abbey. Speaking of 'utilizing' the upper portions of churches as "an addition to the domestic portion of the building," Mr. Deane remarks:—"At Mellifont Abbey, Co. Louth, the church is so divided, the lower portion being ecclesiastical, the upper domestic." If Mr. Deane had quoted such an example much nearer home, as St. Douglough's, I would not pause in perusal; but I confess I rub my eyes and again re-read this bold statement, considering that I am under an impression resulting from several visits to Mellifont that the *abbey church is not there at all*, unless grass-grown mounds may be considered to afford a hazy outline of its site; and how it is capable of being divided into an upper and lower ecclesiastical and domestic arrangement respectively, is beyond my comprehension at first sight. There is some mistake. Surely Mr. Deane has not himself visited Mellifont, and has taken this statement from some misleading authority of the guide-book class, or some of the 'topographical' archaeologists who have in times past, in perfect innocence of conventual and monastic planning, written a great deal of nonsense about Irish abbeys, and Mellifont in particular. Mellifont Abbey was a foundation of French Cistercians. Thanks to the investigation of archaeological architects, we are now in no hazy uncertainty as to the arrangement of Cistercian plans according to a fixed and little-varying model.† He who reads and 'runs may read' the plan of what ruins stand at Mellifont. There do exist two fragments of the subsidiary buildings of the cloister-

garth; but long ago, before even Wright's *Louthiana*, published in 1758, made its appearance, it seems the church had disappeared, and upper apartments therein would now be as visionary as "upstairs in a tent." These fragments consist of remains of two ever-recurring features of the Cistercian plan, each in its commonly-appointed place—the lavatorium* and the chapter-house, about which last a great deal of the nonsense referred to has been written, under the fanciful name of "St. Bernard's Chapel," by airy archaeologists who never gave an hour's study to Cistercian architecture in their lives. Mr. Deane, as an accomplished architect, could not possibly be deceived for an hour as to the nature of the ruins at Mellifont, if he had ever seen them, and not trusted to the archaeology of the guide-books. If he had seen them, and failed to discriminate their character, and afterwards made the assertion I criticise, he would scarcely be the man to be the intelligent custodian of Irish National Monuments.

Above this last fragment of the cloister-garth buildings exist remains of dormitories, no doubt. It would be very odd if they did not; for in not one of the innumerable Cistercian abbeys whose subsidiary buildings of the cloister-garth are extant, are the dormitories *not* found in this position. To mention them as a feature of exceptional note would be about as novel a piece of information as to tell us that in the semi-detached villas of Rathmines and Rathgar, it was occasionally found that the cook sleeps in the basement storey.

Such a misleading assertion as this following on Mr. Hill's matter-of-fact explosion of the "Flues" theory at Cormac's Chapel leads me to offer the criticism; that from such documents as an authoritative report to H. M. Government should be rigidly excluded all assertions as to facts taken on authority, whether it be from the local guide-book, or even from such sources as the writings of Petrie or the late Sir William Wilde, until sifted by the more thorough-going common sense of the archaeologist-architect.

A word as to those 'Flues' at Cormac's Chapel. Mr. Hill, like the man who makes two blades of grass grow, &c., deserves for the exploding of some well-established humbug the thanks of the antiquarian community. No sane architect can, I think, study in one hand M. Viollet-le-Duc's article 'Chainage-en-Bois,' and in the other Mr. A. Hill's admirable Monograph of Cormac's Chapel, without being at once convinced of the simplicity of common sense enunciated, and the absurd fancifulness of the guide-book old wives' fable of St. Bernard and his 'Roman Hypocaust' patent heating apparatus. Here we find joist holes where joist holes might be naturally looked for; traces of a tie applied where a tie was eminently required; and that tie of the readiest and fittest sort to hand—a stout oak stick, a receptacle for a bond-timber skilfully inserted so as not at all to affect the stability of the building (as Mr. Brash's superficial examination led him to state), and that in a manner we are told on no less authority than M. Viollet-le-Duc, as common from Greek and Roman times down through all the mediæval periods; and yet we have been asked by Mr. Brash to believe that Cormac's masons wouldn't do such a thing—not use a bit of oak timber for any such purpose. Why, to be consistent, Cormac's masons ought to be too high-minded to make the coats they wore out of anything but flagstones.‡

But still, A. Hill, my mind misgives me that you shouldn't have done it. 'Twas a

* Vide 'Lavabo,' M. Viollet-le-Duc's Dictionary, vol. vi., p. 170.

† It has occurred to me, in reading the article *Chainage-en-Bois*, M. Viollet-le-Duc offers a hint of how further confirmatory proof of Mr. Hill's hypothesis might be afforded if such were required for any pragmatical unbeliever. Speaking of such examples of 'Chainage-en-Bois,' found in nearly all Mervian and Carolingian buildings, he adds in a footnote—"Il ne pas besoin de dire que le bois a disparu . . . mais son moule existe dans la maçonnerie." Perhaps one of the junctions of the cross-openings with the 'flue' being opened up would show the trace of the cross-head which projected across the longitudinal sleeper and in the matrix of mortar remaining.

pity to explode a dear, venerable, touching story of the pious and loving monks warming up the old saint "unbeknownst" to himself. Why did you do it? It is not so often that the dreary pages of a Blue Book are enlivened by a touch of romantic incident (not to speak of pretty pictures). I have met nothing like it since a report on Irish Fisheries stated, for the information of the House of Commons, the interesting zoological "fact" that it had been remarked *that since the death of the late much-respected harbour master of Howth, the herrings had quite deserted that part of the coast.*—Yours faithfully,

THOMAS DREW, R.H.A.

CITY IMPROVEMENTS.

THE advantages which have accrued to the inhabitants of Henry-street since the roadway of that thoroughfare was laid down with asphalt a couple of years since have induced the merchants of Mary-street (a continuation of Henry-street) to follow suit, and put their hands in their pockets for the purpose of defraying their portion of the expense of laying down a noiseless pavement. In our opinion the work has been well and expeditiously executed by the Limmer Asphalt Company.

The line of thoroughfare from Sackville-street to Capel-street forms one of the most important and flourishing centres of commercial enterprise in this city. On the present occasion we have to direct attention to the premises of Mr. William Birney, 45 Mary-street, a concern for many years established in the house-furnishing and ironmongery trade. Mr. Birney, determined on not being behind in the march of improvement visible in this quarter, has called to his aid the architect and builder. His business premises have recently been considerably enlarged. A new wareroom 90 feet by 24 feet has been provided, whilst at either end are other show-rooms, the whole extending over 200 feet from front to rear. Workshops for the manufacture of marble mantelpieces are also in connection herewith; of these numerous specimens are to be seen on the galleries. A large and varied stock of house-furnishing and builders' ironmongery is always on view. The galleries are approached by a broad central stair which leads right and left from the landing. The roof of new wareroom is of open timber-work stained and varnished, which, whilst being very effective, is quite a novelty in a commercial establishment. In point of extent and planning, this wareroom can hardly be surpassed by that of any other in the trade. The works have been carried out from plans by Mr. G. P. Beater, C.E., 17 Lower Sackville-street. The contractors were Messrs. Thomas Wardrop and Sons, Great Brunswick-street.

WANTED, WORK FOR ANALYSTS.—At the annual sessions for the County of Anglesey, on Tuesday, the County Analyst, Dr. Owen, reported that nothing had been sent to him for analysis, and suggested the appointment of district inspectors. In the course of a conversation which followed, Mr. Davies said he thought the appointment simply a farce, the analyst having done nothing since he took office, and suggested the reference of the appointment to the Finance Committee, to see whether it was desirable to allow the office to lapse or decide upon its duties being more effectively carried out. This course was agreed to. Mr. J. A. Wanklyn, Public Analyst for Buckingham, reported to the last meeting of the Town Council that he had done nothing as public analyst for the borough, but was bound to make a return, for which his fee was 10s. 6d. It was ordered to be paid.—*Grocer.*

* "Forty-fourth Report of the Commissioners of Public Works in Ireland, with Appendices. 1874-76." Dublin: Alexander Thom.

† Vide Sharpe on the Architecture of the Cistercians (R. and F. N. Spon, 1874); Phillips's Grey Abbey, County Down (Wm. H. Greer, Belfast); M. Viollet-le-Duc, and the Rev. Mackenzie E. Walcott, *passim*.

NOTES ON THE EARLY HISTORY OF
THE IRISH STAGE.*

EVENTS are crowding upon each other, and great actors, Irish and English, are now upon the stage. Leaving untold for the present particulars of Spranger Barry's birth and parentage, and an estimate of his theatrical abilities, we hurry on to witness his first appearance on the boards of old Smock-alley, in the character of Othello. The play-bill announcing the first appearance of a great actor in the past is generally looked upon as a curiosity by playgoers of the present, so we subjoin one in relation to our subject:—

"By his Majesty's Company of Comedians.
FOR THE BENEFIT OF MR. SPRANGER BARRY.
AT THE THEATRE ROYAL IN SMOCK-ALLEY,
On WEDNESDAY, the 15th FEBRUARY inst.,
Will be acted the Tragedy of
OTHELLO.

The part of Othello to be performed by
MR. BARRY,

Being the first time of his appearance on any Stage.

IAGO	..	Mr. Wright.
DUKE	..	Mr. Vanderbank.
BRABANTIO	..	Mr. Beaumley.
RODRIGO	..	Mr. Morgan.
CASSIO	..	Mr. J. Elrington.
LODOVICO	..	Mr. Bardin.
MONTANO	..	Mr. Waton.
DESEMONA	..	Mrs. Bayly.

And the part of EMILIA by Mrs. Furnival.

With Singing by Mr. Love, and Entertainments of Dancing
by Mademoiselle Chateauf.

N.B.—By order of the Proprietors. Tickets given out for this
play at the Theatre Royal in Aungier-street will be taken the
same night at the Theatre Royal in Smock-alley.

Boxes, Stage, and Lattices, 5s.; Pit, 3s. 6d.; Gallery, 2s. 2d."

The prices of admission are worthy of notice, for a comparison with those of our own time. They were usually as follows: boxes, 5s. 5d.; lattices, 4s. 4d.; pit, 3s. 3d.; gallery, 2s. 2d. When the Irish shilling or "hog" was thirteen pence, of course five hogs would be 5s. 5d. The gallery "gods" in 1744, and for long years afterwards, were content to pay 2s. for admittance to a cock-loft; now 6d., and even 3d. in some of the London theatres, gains the admission to see, criticise, and caterwaul.

Spranger Barry's first appearance brought a crowded house, and an amount of applause that would have elevated the soul of any new actor. All were satisfied, and "Othello" was again repeated, confirming previous opinions as to the great abilities of the young actor. Pierre was his next character, which met with equal success.

At Aungier-street Theatre, "at the particular desire of several ladies of quality," Mrs. Furnival took her benefit on the 6th of February, 1743-4. The "Merchant of Venice" was revived for the occasion, the part of Portia being performed by Mrs. Furnival; Gratiano, by Mr. Sparks; Lorenzo, by Mr. Lowe; and Shylock, by Mr. Wright. "Entertainments of Dancing, by Mons. Dumont, Mademoiselle Chateauf, and Mr. Morris," followed; and a farce entitled "The Virgin Unmasked" concluded the performance. The part of the Virgin was acted by Mademoiselle Chateauf, being her first appearance in that character.

"At the particular desire of several ladies of quality," "his Majesty's Company of Comedians" performed for the benefit of Mr. Morris at Smock-alley on the 23rd of May, 1744. The piece was "Woman's a Riddle." The part of Sir Amorous Vainwit was acted by Mr. Sparks, and that of Vulture by Morris. The other actors in the piece were: R. Elrington, J. Elrington, Mr. Barrington, Mr. J. Sparks, Mrs. Pasqualino, Mrs. Bayly, Miss Bullock, Mrs. Phillips. The usual entertainments of dancing followed, which it may not be amiss to state, as it will help to give some idea as to the state of theatrical matters at that time. At the end of Act ii., "a serious dance by Mademoiselle Roland;" at the end of Act iii., "The Dutch Skipper, by Mrs. Phillips;" at the end of Act vi., "A dance called La Marie and the Louvre and Minuet, by Mons. Moren and Mademoiselle Roland;" and at the end of the play, "a new dance, by Mademoiselle Roland." A farce

* See ante.

called "The Devil to Pay, or the Wives Metamorphosed" concluded the performance, the part of Sir John Loverule by Mr. Morris, and Nell by Mademoiselle Roland, her first appearance in that character.

The managers of both theatres, or, rather, both theatres under the one management, opened their winter season in better spirits, having been strengthened by the assistance of Mr. Foote, who at this time first visited Ireland. The great English actor was well received, and brought good audiences for awhile. Barry occasionally continued to play, and always brought good houses. His characters increased, and he was now playing Lear, Young Bevil, Henry V., Orestes, and Hotspur. Henry Brooke's play of "Gustavus Vasa" was now revived with some alterations, and acted several times with a fair success.

The united management of Aungier-street and Smock-alley was fated to have its dreams of security disturbed, despite its efforts to choke all opposition. The performers who were excluded on the forming of the new company, and forced to retire from Smock-alley, took counsel, clubbed their resources, and determined to have a fall with their adversaries. Smarting under what they considered unfair treatment, they were determined that they would not be snuffed out, so they hurriedly erected, as a last resource, a little theatre in Capel-street, and, obtaining the permission of the Lord Mayor, they called themselves the "City Company of Comedians." They were joined by a few more discontented actors; and on Thursday, January 17, 1744-5, they performed Shakespeare's "Merchant of Venice." The caste was as follows:—The Duke, Mr. Rivers; Morochius, Mr. Brouden; Antonio, Mr. Townsend; Bassanio, Mr. Marshall; Gratiano, Mr. Hall; Lorenzo, Mr. Corry; Shylock, Mr. Wright; Tubal, Mr. Bourne; Launcelot, Mr. Morgan; Portia, Mrs. Brouden; Nerissa, Mrs. Phillips; Jessica, Miss Lewis. The company was a poor one—Wright, Bourne, and Morgan being the best in the caste.

We may well imagine what a desperate struggle was commenced by the "City Company of Comedians," having to contend with ill-accommodation and want of proper wardrobes and scenery. With intermittent gleams of sunshine and alternating hope and despair, they continued to struggle on for a few years, but eventually they were forced to succumb. The united company continued to play, and even with them matters went from bad to worse. At the close of the winter season the proprietors of Aungier-street and Smock-alley found their affairs in a very bad state indeed, with bankruptcy and ruin staring them in the face—the result, of course, of continued bad management. As a last resource, and agreeable to public opinion, they solicited Mr. Sheridan, who was in London, to come back, and undertake the sole direction and management of the Dublin theatre. They offered to invest him with unlimited authority to do as he should think proper in every way. Preliminaries were soon adjusted, and matters settled to Sheridan's satisfaction. He started for Dublin, sanguine, no doubt, that the coveted opportunity had at last arrived for him, and that his ambition of reforming the Irish stage would be soon gratified. Sheridan arrived in Dublin in May, and performed for some nights in conjunction with Barry. He soon set about procuring a good company. Miss Belamy, who was then a rising young actress of fame, was secured, by offering her advantageous terms. Mr. Lacy, the patentee of Drury-lane theatre, was prevailed upon to spend some months in Dublin, but Sheridan appeared most anxious to secure the assistance of Garrick, as such a good actor would add greatly to the success of his new and arduous undertaking. Were Sheridan a man of ordinary mind, and more concerned about his own abilities, he might have hesitated to enlist the services of Garrick, but no thoughts of jealousy influenced him. As sole manager of the Irish stage he might indeed select what character he liked, and play what character he chose. He studied, however,

the public feeling, and showed his anxiety to engage the only man of whose great abilities it might be supposed he was jealous. In his desire to engage Garrick, he was seconded by the opinion of Barry, so we find Sheridan writing to the following effect:—"That understanding he had expressed a wish to pay a second visit to Ireland, he informed him he was then sole manager of the Irish stage, he should be happy to see him in Dublin, and that he would give him every advantage and encouragement he could in reason expect." He went farther, he made an offer to Garrick to divide the profits arising from their united representation with him, after deducting the expenses incurred. Before Sheridan had left London, it is stated a sort of rivalry and coolness existed between them, and in the light of this we may understand the manly spirit of Sheridan in telling Garrick that he must expect nothing from his friendship; but all the best actor had a right to command, he might be very certain should be granted. An already acknowledged authority writes further of this event: That Mr. Garrick was at Colonel Wyndham's when he received Sheridan's letter. After looking over it, he put it into the colonel's hand saying:—"This is the oddest epistle I ever read in my life." "It may be an odd one," replied the colonel after he had perused it, "but it is surely an honest one. I should certainly depend upon a man that treated me with that openness and simplicity of heart." Garrick accepted the invitation, and on landing in Dublin was met by Sheridan, who again renewed his offer of sharing profits and losses. Garrick held on for a stipulated sum for performing during the winter. Sheridan objected, and persisted in his original offer, observing it was the most reasonable, for then Mr. Garrick would receive as much money as he brought, and others would not be losers. In the other case he might be the only gainer. We learn that after some little dispute between the two actors, Sheridan took out his watch and insisted upon an answer in five minutes. Garrick capitulated, and matters were arranged in an amicable manner.

In the following season Sheridan opened with "such a company as Dublin had till then never beheld, and which her theatrical annals cannot parallel." Among the company were the following: Garrick, Barry, Lacy, Elrington, Mrs. Furnival, Miss Belamy, Walker, Frank Elrington, Morris, Bardin, Vanderbank, Sullivan, Beamsley, Mrs. Walker, Mrs. Storrer, Mrs. Elmy, Miss Jones, and others.

Before proceeding to describe the theatrical season that opened in October, 1744, the actors and actresses that appeared, and the plays that were produced, it will not be amiss to make a slight digression in giving a picture of the abuses connected with the Irish Stage, and of showing how Sheridan combated them, and eventually succeeded not only in reforming the stage, but the performers and the play-going public for whose taste he catered, and whose patronage he justly deserved.

DECORATIVE ART AND ART WORK-
MANSHIP.*

In attempting to determine the social influence of decorative art and art workmanship in this or any other country, a preliminary question naturally presents itself, viz.:—"What is decorative art, and how does art workmanship differ from ordinary manufacture?" The answer in each case seems easy enough at first, but a little reflection will show us the difficulty of attempting it. In the highest sense of the words, *all* good art is decorative, *all* good workmanship is artistic. The fact that in one age paintings are found on walls, in another on panels, and in a third on canvas, is an accident of material or fashion which no more helps us to draw the line between pictorial and decorative art than the consideration of subject treatment, which, as we all know, was in the best periods half

* By Mr. C. L. Eastlake. Read on 17th ult., at meeting of Social Science Congress, Liverpool.

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ideal, half realistic, and which under certain conditions still partakes of both characters. Again, with regard to art workmanship, from the blacksmith who in the Middle Ages invested his locks and hinges with consummate grace of form and detail, down to the village cartwright of our own time, whose work is always skilful and often picturesque, who shall say at what precise point the followers of any handicraft rise from the level of mechanics to that of artists, or when the products of human industry cease to be objects of beauty, and become mere articles of use? The truth is that it is impossible to formulate such definitions with anything like accuracy. At different periods of the world's history a sense of material beauty has manifested itself in various ways, and under remotely different conditions. The very word "art" itself had originally a wide significance, and it was only in degenerate times that its sense became limited to the very narrow sphere in which it is vulgarly applied. It would, however, be affectation to ignore the sense in which we understand the term to-day, and it is only because the question before us assumes at this meeting a social and philosophical rather than a technical form that I have ventured on this preamble, by way of apology for the views which I hold, and which I have been invited by your courtesy to express. The consideration of that question divides itself, to my mind, under two heads, viz. :—

1. The effect of refined taste and workmanship upon the educated public for whose use and gratification houses are furnished and decorated. 2. The effect upon the artist or workman who designs or executes the work required. In the first case, I apprehend that the advantage or mental enjoyment we experience in surrounding ourselves with objects of good and appropriate design is, or ought to be, of the same general nature as that which we derive from works of higher art, such as painting, sculpture, and architecture. I say of the same general nature, because of course, even the higher arts may appeal in a different degree to different orders of mind. All I contend is, that to a properly educated taste the source of what, for want of a better word, we may call "eye pleasure" is common to all the arts, however humble the purpose to which they may be applied. The only wonder is that any line of demarcation should have been drawn by modern philosophy between results which when philosophically tested are identical in origin and object. It is true that a certain difference must be acknowledged between a work of art produced for the sole purpose of gratifying the eye and a work of art in which use and beauty are found combined, but I confess that in comparing the two, the latter, to my mind, does not appear, when socially considered, in a disadvantageous light; while the mental pleasure in each case is substantially the same.

Yet during the revival of European art the element of beauty has until lately been regarded as trivial and unimportant in certain branches of manufacture, while in what we have been accustomed to call the Fine Arts it has been designated as a source of intellectual enjoyment. I believe this distinction to be essentially a product of modern thought. Look back to the best periods of taste which the world has seen—Classic, Medieval, or Renaissance—and note how perfectly in harmony with the higher arts of each period are the form, texture, and colour of every work of man's hand which was an accessory in the great picture of human life. The age of Phidias was distinguished by its perfection of fictile art, and by a costume so pre-eminently graceful that to us moderns the very fragment of a draped statue becomes an object of interest. The age of Robert de Luzarches and of Jean d'Echelles was the age of storied tapestries, cunningly wrought ironwork, and carved ivory. The age of Raphael was the age of those chaste and beautiful designs for mural decoration, as well as for the potter's and goldsmith's art, which we still admire in cinquecento work.

These are names which have for centuries been identified with three of the grandest epochs in the history of sculpture, architecture, and painting; and they are revered by thousands to whom the style of modern dress, the pattern of a curtain, or the shape of a chair are matters of supreme indifference. With such people art is too exalted and intellectual a pursuit to concern itself with the details of everyday life. Greek statues, Gothic cathedrals, and the old examples of pictorial art may be enjoyed, they think, quite independently of such minor matters as the fashion of clothes and furniture. To an ordinary ear this sounds plausibly enough, but is there not something grossly inconsistent in the conclusion? Imagine the Diana Venatrix arrayed in the latest Paris costume, or an old Venetian portrait surrounded by modern accessories, or Haddon Hall fitted up in the style of upholstery which found favour only twenty years ago. You will perhaps say that this is an unfair line of argument: that it is one thing to degrade the great art of past ages by investing it with the conditions of nineteenth century life, and another to admit those conditions in the appointments of a modern household. Very true, but what can we say in defence of a taste so incongruous as to tolerate and even approve types of ugliness around us which we should shudder to associate with our ideals of beauty in the past? The fact is that such a taste, regarded theoretically, assumes an eminently artificial character. And to realise this fully we need only analyse the sensations of pleasure which we derive from examples of the fine arts. Suppose, for instance, we endeavour to define the fundamental graces of good architecture to be proportion, chiaroscuro, a rhythmical subdivision of parts, an appropriate distribution of ornament, and so forth. Apart from the mere condition of size, which may be common to all architecture, good and bad, what characteristic beauties do we find in it that may not also be realised in furniture? Again, sculpture and painting have in the best ages of all art played an important part in decorating household objects of the most utilitarian description. We may talk in the abstract of the graces embodied by form and colour, but both these qualities are equally essential to the excellence of the minor arts, and a thoroughly genuine taste should surely demand in one case what it requires in the other. In past ages, as I have said, the same standard could be applied to both, and even down to the middle of the last century the dress and accessories of external life were picturesque enough to grace the canvas of Reynolds. It has been reserved for our own time, when public appreciation of the fine arts, if we may judge from financial evidence, has reached its zenith, to invent a style of dress of which the portrait painter is ashamed, and a style of furniture which, until recently, was a scandal to the architect. I say "until recently," for we must all admit that within the last few years a marked improvement has been taking place in the decoration and appointments of English homes. After the lapse of three generations, people are beginning to feel that works of real art may sometimes be looked for beyond the limits of a picture frame and the below pedestal of a statue; that the love of Greek vases and Italian marquetry, however commendable in the amateur, might be more usefully directed in improving the design of British pottery or cabinet work; and that the fashion of upholstery, once synonymous with all that was vulgar and uninteresting, may be so remodelled as to make the internal aspect of our homes refined and picturesque.

That this reform, which I believe to be a very healthy indication of national taste, has at present made but partial advance may be inferred from the fact that we still find private collectors and dilettanti who line their walls with pictures and fill their cabinets with bric-a-brac, but who furnish their houses as though they were ignorant of the first principles of design. Take, for instance, the high prices sometimes given for old engravings of a

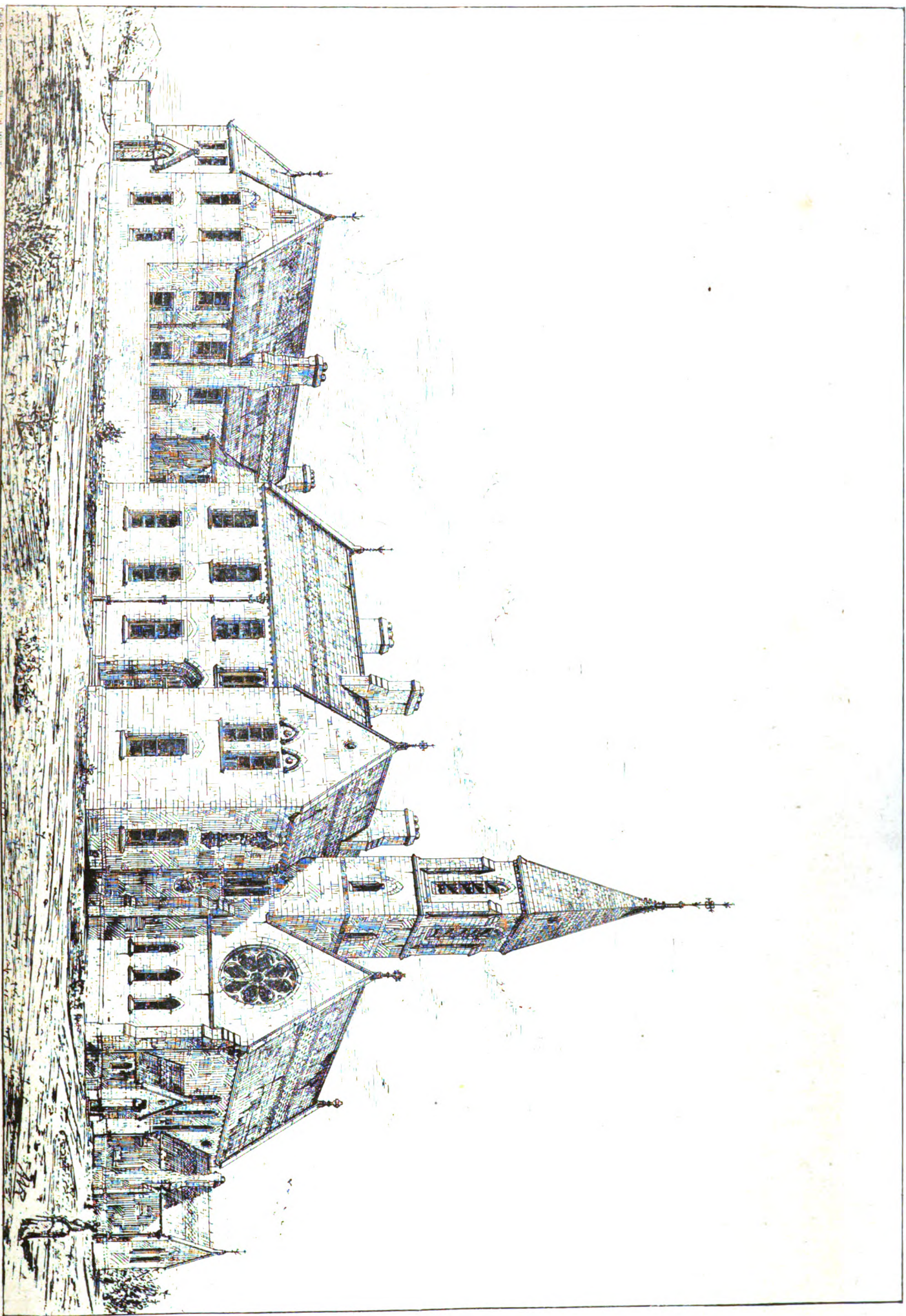
particular school which happens to be in fashion. Half the money thus spent would pay for a well-panelled wainscot or decorative frieze round an ordinary drawing-room. The cost of a few specimens of old English or Dresden china, often only valued for their rarity, would fill a room with oak or walnut furniture of excellent design. It is of course only natural that we should indulge our retrospective hobbies in art, but if we are to defend them on æsthetic grounds it would be well to ask ourselves this question—In forming these collections are we actuated by a real love of the beautiful or by the mere pride of possession? I have seen thousands of pounds worth of gems, coins, and intaglios stowed away in the cabinets of private houses which are fitted up in the most vulgar and commonplace fashion, and whose owners, though they pass for people of taste, exhibit no evidence of it in their immediate surroundings. Indeed, they seem to get but little genuine pleasure out of their collections, whereas if they had spent the same money in fitting up and decorating their house in a good sound style of art, every room might have become a source of daily interest to themselves, and they would have had the additional satisfaction of feeling that they had helped to encourage one of the best forms of national industry.

But to revert to the question which is to form the subject of our discussion, viz.—what is likely to be the social effect of improved taste in decorative and industrial art? I venture to think it will be useful in more ways than one. I am not one of those optimists who desire to accredit art with any special moral functions, and, indeed, if its true history were to be frankly written, I fear we should find that the best art of all ages was by no means contemporary with the highest development of human virtue. But there are, nevertheless, certain qualities of head and heart of which it may become the exponent, and inasmuch as in our day almost all taste may be described as eclectic, so it is also, incidentally, educational, and we may expect that in due course it will have a quasi-social effect upon the rising generation.

The rough but jovial hospitality of old English homesteads, the licentious manners of the Restoration, and the formal deportment of the early Georgian era, were all in turn reflected by the architecture, the dress, and furniture of the day. Now, if I were asked what I considered the special characteristics of domestic taste in the last generation, I should say dulness and deceit. From drab-coloured stucco fronts of cockney villas down to artificial flowers and Brummagem plate upon veneered dining tables, household art was fast becoming a gloomy sham. How it was rescued from this degradation, and what causes operated to bring about a reaction, it would take too long to explain, but that the tide of public taste is now setting in an opposite direction there can be little doubt.

In the general forms and enrichment of cabinet work, for instance, there has been an extraordinary improvement within the last few years. The clumsy carving and heavy details with which it was once encumbered have been replaced by delicate mouldings, judiciously introduced ornament in flat relief, or decorative painting. In the patterns and colours of textile fabrics we have made still further advance, and one can scarcely look into the shop windows of any good upholsterer without seeing *portières* and window curtains of real artistic excellence. The same may be said of English paper-hangings, in the design of which an abstract treatment of natural forms in vegetable life has been adopted in place of the geometrical diapers of the late Gothic school, and the pictorial vulgarities that preceded them.

There remains, however, much to be learnt and much to be done before our national taste in furniture can be called artistic. We have museums filled with objects of ancient art workmanship—objects not only of luxury, but of ordinary use—which might be reproduced at a reasonable cost if our manufacturers would but deign to copy them. We



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have competent designers who have made the minor arts their special study, and who in the course of a few years might completely remodel the character of industrial art, if they were employed to superintend its execution. But instead of this we find tradesmen intent, every season, upon producing what they call "novelties," and which include every type of artistic error which it is possible to conceive. Take carpets, for instance: with the productions of the Oriental loom for years before his eyes as models for imitation, the British manufacturer, with a few creditable exceptions, has gone on from time to time turning out goods which violate, I will not say this or that canon of taste, but every principle of taste which has ever been recognised in good textile art.

(To be continued.)

THE CITY OF NEW YORK.*

(Concluded from page 305.)

The private houses of New York in general resemble in their architecture and disposition English residences; they have no resemblance to our Parisian houses. It is not understood in the United States that several families can dwell at the same time under the same roof.† Each prefers to have a separate dwelling, but, nevertheless, these same people go willingly to live in hotels. The dwellings of the rich are distinguished by their elegant and monotonous façades in which the red sandstone of New Jersey is constantly used in continued blocks with the same mouldings, general design and composition. There are nearly always the same stone balconies, the same large panes in the windows, the same monumental doorway in handsome walnut of American growth, carved with deeply-sunk panels; to which leads an external staircase. At the foot of the steps runs across an iron railing which encloses a square of grass, and the steps which lead to the kitchen. On the other side (or rear) of the house, a small garden or court with a trellis at the end. Cords are willingly stretched across the trees for drying the washing which is done in the house. Some gardens are better kept, and furnished with rare plants. In the interior of the dwelling are numerous objects of art, often in doubtful taste. Nevertheless, several collections deserve mention as exceptions, and as bearing witness to the enlightened tastes of their owners. There is such a gallery of pictures established with a delicate and patient care which should be remembered, if others have been collected only to obey the custom which ordains, that those who possess the means should purchase pictures.

It is in these princely residences that dwell those young and lively "misses,"‡ who seem to live only for amusement. They have as much freedom as they please, American manners are yet remarkable for that even above those of the English. Happily the young girls unite to an excessive love of pleasure and excitement, a calculating temperament which serves to keep them in restraint. The head may seem thoughtless, but the heart is untouched. The laws of the country protect women more effectually than with us. It is not that there are no abuses, and that the young lady of New York is not, according to European ideas, a little fast or volatile. During the day they go about freely with their friends, or accompanied by those who have the honour to pay them addresses who flirt openly with them, riding or driving in the Central Park, where, like unwearied

Amazons, they are often to be seen gaily careering in a "buggy," which they drive themselves. In winter they change to the sledge or sleigh, or go to skate on the lake in the park, or else satisfy their curiosity by a tour of the shops of Broadway. There they cause all the stuffs to be exhibited, asking the price of each thing and buying nothing. The impassible shop-men do not show by any sign the least dissatisfaction. There is a word for this singular custom, familiar to all the American ladies, and a little to the English, viz., "shopping." Another custom of which the American ladies are mistresses is to enter the confectioners and consume ices and other delicacies on all occasions, for which they appear to have strong appetites. In the evening the same young girls resort to the theatre and the restaurant. If a great ball is given anywhere you are sure to meet them. In summer, parties without end invite them, especially at the watering places of Newport, Longbranch, and Saratoga, where they appear several times a day in different brilliant toilets, enough to ruin twenty husbands. Or else crossing the ocean they come to astonish Europe with their joyous flights. Who has not met them at Brighton, the Isle of Wight, Ostend, Spa, Hombourg, Rome and Paris, where they are enthroned for a brief period with so much éclat? The noisy festivities of the Tuileries, especially towards the close of the second empire, had no more assiduous applicants and frequenters than these proud republicans. Many men accustomed to our usages would not desire matrimonial relations with such young ladies. Whether they are right or wrong in this, is of little consequence; it is certain that these young girls, at the outset so frivolous, and sometimes, to speak plainly, liable to grave censure in their conduct, make in the end irreproachable wives and excellent mothers. To every country its manners. Some American families on returning from Europe have endeavoured to import into the United States our severe method of feminine education, but they have as yet found but few adherents.

The men are distinguished from the women, at least in appearance, by more calmness and reserve. They commence business very young, leaving school early. They engage ardently in affairs of every kind, commercial, banking, and industrial. Many travel and do not return home until they have realised fortunes; they reckon little upon paternal inheritance, and a portion is a thing nearly unknown, even for daughters. The father a millionaire to-day may be ruined to-morrow. On what does he count? Upon himself alone, and this is what sustains everyone.

Thus pre-occupied with material things, the men do not shine by refined manners—they have not the time to be polite. Who has not heard of their deficiency in urbanity, and their habits more or less coarse? So much as the women are distinguished, so much the men are little; and it is on this account no less than through the desire which is felt by the native "misses" to acquire that which is forbidden at home, that is to say a title, that so many young American ladies contract marriages in Europe. How many countesses and marchionesses (by marriage) are thus returned to New York, to Chicago and Boston? Let us hasten to say that the grave defects with which we have reproached the men disappear by little and little in the great cities, and that a number among them are distinguished to-day as much by their elegant manners as by the elevated culture of their minds. Many who have come to Europe adapt their manners to the civilization of the old world. Some of the ancient families—those of really noble stamp—have guarded with severity, and inculcated on their children, the wholesome traditions of other times. America had formerly its good society. In the time of George and Martha Washington, who had a court and held their levees, the saloons of Philadelphia, Boston, Newport and New York, kept pace with the best saloons of

England. The succession of more and more marked democratic forms, and the part more and more important taken by emigrants, have little by little changed all that. Those good houses which at other times welcomed the stranger so spontaneously and warmly, it is requisite to-day to know, to search, to find, and each is in a degree walled up. It is as a clan to which it is necessary to belong, otherwise you are held carefully at a distance; the same man who, going in the morning to his business, shakes hands and speaks familiarly to his bootmaker, citizen and elector like himself, closes and immures himself in the evening with his family, and is accessible only to intimate friends.

In this restless and parti-coloured society it is not rare to encounter manufacturers and merchants of whom the fortune and revenue equal those of kings. The commencement of all has been most modest. Stewart, an Irish emigrant, commenced as a poor schoolmaster. Astor, a German, came to New York at the commencement of this century, with one coin in his pocket, has left to his son a fortune in funded property valued at one hundred millions of francs. Vanderbilt, a descendant of the first Dutch emigrants, commenced by being a boatman, and carried in his boat garden products from Brooklyn or Staten Island to New York; he has to-day a fortune no less considerable than that of Astor, and enjoys the renown of being the first man of business in the United States. He possessed at one time the whole of one fleet of steamships, so that he is still called familiarly "the commodore." To-day he has no equal in the administration of the ferry boats. The line of the New York Central and Hudson River, which extends to Chicago by railroad, on the banks of Lake Erie, called the "Lake Shore," is altogether in his hands. He manages its affairs absolutely without control. The shares are above par, and the whole bourse of New York is so much interested in the affairs of this king of finances, that when in September, 1874, the news, happily false, was spread that he was taken ill, all at once the public funds fell. This venerable and indefatigable worker, the greatest in a country where everyone works, is not less than 86 years old.

All American society takes pattern by that of New York. The empire city rules the customs and fashions of America, as Paris rules those of France, and, to some extent, of the entire world. The City of Washington is but the political capital of the United States. Certainly one meets there in winter the most cultivated, elegant and intellectual society, but this society is to a great part cosmopolitan and furnished by the various legations. The true capital of the Union is New York. The society of Boston is more literary and severe; that of Baltimore, Charleston, and Richmond, more distinguished and aristocratic, in the strictest sense of the word (we know how the Virginian families are proud of their blazons and of their genealogy); the society of Philadelphia is more delicate and reserved; that of New Orleans (where the descendants of the French Creoles predominate) more brilliant and chivalrous; and that was, above all, true for New Orleans before the disastrous results of the war of secession, which has ruined the south and left it a prey to the ignoble "carpet baggers;" but no American city can vie with New York in population, in extent, in magnificence, nor enter into competition with her for the figure of the business transacted, for the riches of her nabobs, the elegance of female toilets, the luxury, and éclat of festivities and receptions. It is in this sense that New York is the veritable capital of the United States; and no city—not St. Louis, which the French founded a hundred years ago on the Mississippi, and which has so astonishingly increased since, not Chicago or San Francisco, the queens of the lakes and of the Pacific—can from henceforth deprive it of that pre-eminence.

Admirable destiny is that of this city, with difficulty discerned on the map a century and a-half ago, and which to-day contains a

* From the French of M. L. Simonin, in the *Revue des Deux Mondes*. Translated, with Notes, for the IRISH BUILDER by William Fogarty, F.R.I.B.A.

† Not in the French fashion, each with a self-contained set of rooms, kitchen, &c., and a common staircase. This system was tried in New York, but up to the present has not commended itself. The enormous cost of housekeeping, however, has led to the extensive adoption of what may be called the "boarding system," by which many families are to be found living under the same roof. Indeed this is so general that besides the hotels, nearly every second house in the upper part of the city receives boarders, and the common form of enquiry for one's dwelling-place is, "Where do you board?"

‡ This term is not exactly applied. In America only very young girls, say from ten to fifteen, are called "misses."

million of souls—two millions with the annexed cities of Brooklyn, Jersey City, and the others which make really part of the grand agglomeration. In twenty years, or thirty years at the most, there will be about this point four millions of souls. London then will be distanced, as London has surpassed Pekin; and the first city in the world, as much for the riches as for the number of its inhabitants, will be New York. Cities have their destinies, and in the mysterious phenomena that preside at their birth and fix their locality, the reasons of their future development exist in germ. Nature, at the commencement of the ages, had, without doubt, fashioned this point of Manhattan with a marked preference. Was not the place happily chosen above all to serve one day as a cradle to the first city of the world?

THE INFLUENCE OF ART ON A NATION.*

AFTER some introductory remarks upon the opinions prevailing respecting the effect of art on society, the author proceeded:—

I may be allowed to take for granted what most persons present will concede—that the influence of a genuine art must necessarily be an influence for good. We still have before us the difficult question as to how such an influence is best to be diffused, so as to take a hold of the nation at large. And first, it will be necessary to inquire how far it is possible to diffuse such an influence. Is there any possibility of a genuine love of art taking hold on people generally that it shall seriously affect their habits of life? Is it possible, for instance, ever to recover among us the feeling which is now extinct, but of which a faint tradition lingered, perhaps as late as the Great Exhibition of 1851, that it was not worth while to make furniture that would come to pieces, or to build a house which would not need repair for at least a reasonable time? I do not mean to say that the class of contractors and manufacturers did not contain individuals who scamped their work in all times as now; but in former times the bad work was the exception, now it is the rule, openly the rule, and a piece of well-made furniture or a well-built house is an article of luxury, and must be made or built by specially trained hands. I have no intention, however, of taking into consideration in this address any of the moral causes, such as the ardour to make money at any cost to the public, or trade jealousies or other causes of the kind that tend especially in these days to the degeneracy of art or manufacture; but rather the inevitable social changes, which are the result of material progress and civilisation. If we ask, then, is the return to such a state of things possible, or, to put it more fairly, is the return to the time when every workman was also an artist possible? I say that under existing social conditions it is impossible. That feeling of love of good work for its own sake and of pleasure in bringing it to perfection which is perhaps the most certain evidence of a genuine artistic spirit, was not in former times the property of a few individuals distinguished by superior gifts and education; it was the common property of all handicraftsmen, whether possessed of original talent or not. I do not for a moment pretend that such a spirit as this has ever risen in this country to the dignity of national sentiment; at no time do I imagine that a cheap or easy mechanical substitute for labour would ever have been refused on artistic grounds.

That such a state of national sentiment has existed in the world is indubitable; we have the evidence of everything that has come down to us from the best times of Greek art. That nothing short of perfection was tolerated among them; nay, more, that they were possessed of a critical faculty which would seem to have surpassed our own, so that their trained and cultivated perceptions were satisfied with nothing less than a

subtlety of form and proportion, the advantages of which to our coarser senses seem inappreciable. Nor is it only in their more important works that this perfection is to be found, or in the decoration of such things as our modern cant calls art objects. The evidence of their instinctive love of beauty and perfection of workmanship is to be seen in their more trifling productions. In our own times the very perfection to which mechanical methods of production have been brought, and which raises works of mechanical skill almost to the level of works of art in their wonderful precision and finish, has given the death-blow to true artistic workmanship, whose charm lies as much in the individual character given through the skill of the workman as in the invention displayed. What is now required of the skilled mechanic is not so much that he should understand how to make any particular object as that he should know how to manage the machine by which it is made. It is useless, however, to deplore and rail against the invasion of mechanism; it would be far more worth while to see how far it can be made subservient to the principles of sound art. . . .

Regarding works of art properly so called, and those works of manufacture in which decorative art plays a more or less important part, the conditions are different. Here, as I have said, part of the beauty and charm will be derived from the beauty of the workmanship and the individuality given by the mind and touch of the workman—a phase of artistic beauty to which mechanical reproduction is death. What is it that we admire in Japanese art? No doubt the marvellous and inexhaustible fertility of invention and the perfect rendering of natural forms; but, if possible, still more the exquisite workmanship, which surpasses anything that European hands are capable of. Or, to confine ourselves to European art, wherein lies the beauty of those old Venetian glass goblets, which have the elegance and fragility of a hare-bell on its stem, and almost its fairy-like lightness? Doubtless, in the first place, in the beauty of its design and the delicacy of its material; but does it not owe an equal charm to the taste of the handicraftsman who made it, whose skill has triumphed over the extreme difficulty of producing a perfectly beautiful form in a material requiring such rapid and dexterous treatment as molten glass? It must be remembered, however, that to gain this triumph he must do the work well; the more exact and true he makes it, the more artistic is his work. A truism so obvious might be thought superfluous were it not that there were many persons, manufacturers and others, who consider that the more crooked and irregular such objects are, the more artistic they ought to be considered; forgetting that the imperfections are due to the stubbornness of the material, and that the greatest artist is he who overcomes them best.

To return, however, to the subject more directly before us. How much of this skill of hand and eye is required by the modern glassmaker or potter? His business is not to use his discretion or his natural taste in giving elegance to the form of the glass or pot he is making, but to manage the mould out of which thousands of exactly similar objects are produced; and that the manufacturer believes that a mould is a much better way of producing forms than making them by hand is certain. In a small work on glass-making, by Apsley Pellatt, this opinion is distinctly expressed, and, no doubt, in many other works of the same kind. After describing the skilful and ingenious way in which the old Venetians made the diamond moulding (the particular kind of moulding is not much to the point), he says that equally good effects are obtained by moulds in two halves, which save the tedium of hand labour, and produce in larger quantities (I quote from memory, but the sentence is to this effect). To an uncultivated eye the effect may be equally good, and to save labour and produce in quantities may be a necessity; but the original charm has disappeared; the

delicate fabric has become a mechanical production without life, made probably at a tenth of the cost and with a tenth of the labour, but which, as far as the artistic value of its "diamond moulding" goes, it was unnecessary to make at all. I am not so foolish as to suppose that mechanical reproduction can be done away with; it is part of the necessity of the times; it is certainly a result of our material progress which we cannot go back from. As I have already said, the conditions under which everything that was made before the introduction of machinery was in one sense a work of art, and can never be repeated; all I should wish to be generally understood is that we must not delude ourselves into the belief that we can produce works of art by the substitution of machinery for hand-labour, or that the decoration of objects of common utility by a mechanical process can ever have any artistic value; and we should have made an immense step in advance if the public could be persuaded that it is better to have no decoration at all than such as is purely mechanical.

There are cases, however, where a system of mechanical reproduction interferes seriously with such designedly decorative works as might otherwise have a high artistic value—I mean where skill and taste are applied in the decoration of objects originally produced by mechanical means. The beauty of a Greek vase or of a majolica jar is twofold—first, in the form which, besides being beautiful in itself, has the charm of handicraft which I have referred to; secondly, in the decoration. Now, I would ask what is the use of a manufacturer spending large sums of money on the decoration of a vase which is disfigured, not only by the monotony of surface and form which is the inevitable result of moulding instead of throwing from the wheel, but by the obtrusive rib which the mould leaves down each side, and which nobody is at the pains to remove before it goes into the artist's hands. I have had under my notice vases ornamented with unquestionable taste and the most delicate manipulative skill, and over which much time and labour have been spent on the part of the artist and considerable money on the part of the manufacturer, the effect of which was entirely marred by this obtrusive blemish, and the fact that the pots were moulded instead of turned. If complaint were made to the artist, he would probably complain in his turn that he is obliged to take what the manufacturer gives him, and has no means of getting anything better, for all the manufacturers are alike. If to the manufacturer, he would say that it makes no difference to him; that it pays him as well as if he took more pains, because people who buy do not notice a fault of this kind, but only look to the decoration. From this point of view he is, no doubt, right, for business is business, as we know; and although there are, happily, not wanting among our manufacturers men of spirit and taste who will go to expense and incur risk in the production of articles of what is called art-manufacture, none will hazard any loss on the regular profits of their regular business; the fault lies in the original process of making, which has sunk from a fine art to a mechanical process; and if the manufacturer were so far a man of taste as to wish to alter it, he would find himself in the difficulty of having to set up new machinery, engage a different class of workmen, probably not be able to get them, and have to train them for the purpose. We thus find ourselves in a vicious circle; the artist cannot help himself; the manufacturer makes for the public, who have not the discrimination to perceive what offends the artist and the man of taste, and the workman naturally works in the groove to which he is accustomed and in accordance with the exigencies of trade.

The original cause of this state of things is due to the discovery of mechanical processes which superseded labour. To trace it to this, however, does not, unfortunately, show us the remedy. A strong feeling for the higher forms of art has never existed in

* From Address by Mr. J. E. Foynter, R.A., at Social Science Congress.

this country, or, I should say, rather, the artistic faculty has never in our race of its own accord leant towards the higher forms of art. Except in architecture, we have never produced any works of higher art; we have never had an indigenous growth anything in the shape of those schools of painting and sculpture and metalwork which sprang out of the native soil in Flanders, to say nothing of Italy. All the higher forms of art have been imported into England either by foreign artists coming to work for our native princes or by men of taste and culture. Until within the last hundred years there was no such thing as a school of painting in England at all. But there did exist in England until lately what, indeed, was common to all the world—the sentiment and tradition of excellence in such more homely forms of art as are applied to household furniture and fittings; and such a feeling took, of course, an English development which gave its own character to the work produced. What I desire to point out is, that only through the determination and energy and a certain amount of self-sacrifice on the part of those who are capable of directing the public taste—that is to say, of artists and men of culture—can an improvement be considered possible. . . .

It may be said that education may gradually infuse a spirit of art and a love of beauty, and—what is still more important—a hatred of ugliness and a discriminating instinct to distinguish the true from the vulgar and pretentious. I believe so also, and in this way. It is not to be supposed that to teach the rudiments of geometry and perspective and elementary free-hand drawing to so many thousands of children will turn them at once into artists, or even give them any artistic instincts. But it will act as other elementary education acts—give a chance to natures which might otherwise remain undeveloped. These elementary stages in art, indeed, can hardly be said to be art at all; and those who complain that free-hand drawing is dull and tedious work for children, and that they should be taught to work at once from nature so as to have interest in their subject, do not understand the reasons for this system. That, in the first place, the authorities will understand that the making of geometric and free-hand drawings can no more be called studying art than the learning the alphabet can be said to be studying literature; both are the necessary preliminary stages to a higher culture; and, in the second place, where drawing is only a small portion of the course of elementary education, and in places where hundreds, perhaps, of school children are learning, it is necessary to give the instruction in the most convenient and handy form. There are the art schools for the further development of those whose taste or talent impels them to further study in this direction, and I may add that a constant effort is being made so to arrange the Government payments to the masters that there shall be the necessary inducement to lead the pupils from one stage to another—a matter which would be easy enough if the supplies were unlimited, but which is difficult when they have to be kept within bounds. It is in this way, however, that I hope the influence of the vast machinery of the Art Department may be felt—through the chances given to children to turn their attention to art if their inclinations lie that way; through the inducements to study offered by the art classes and art schools. The system has its disadvantage, no doubt—namely, that, according to the direction the instruction takes, this influence will be equally strong for good or for evil; and herein lies an immense responsibility.

But we have another great piece of machinery which runs no such risks, and by which the truest principles of taste may be diffused among all classes. I mean through the institution and formation of museums. Here again do not let us deceive ourselves as to the influence they may exercise. Without previous culture no one is likely to appreciate a work of high art; the richness and splen-

dour of workmanship and material in a cup by Cellini will please an uneducated eye, but it needs a long apprenticeship in general and special study for the appreciation of the exquisite taste and fancy which has guided the artist. Mr. Morley, in a speech on education lately, asked why the collection of Castellani jewels at the British Museum should not be sent to Birmingham to improve the taste of the jewellers. If it was in the least probable that the goldsmiths and jewellers would take to heart the lesson that those wonderful specimens of Greek art might teach them—a lesson which I have tried to inculcate in this paper, viz., that exquisite workmanship is the essence of fine art manufacture, and in jewellery above all things,—no risk, perhaps, would be too great to run in the cause; but it is far too probable that the only result would be the “cribbing” of a few of the forms to produce a novelty, and the executing them in a coarse and barbarous manner. But it must be remembered that museums have another important function besides the circulation through the provinces of fine specimens of art and workmanship, and that is, the preservation of those inestimably precious relics of antiquity which no money or labour could ever restore to us if once lost or destroyed. After this consideration, the exhibition and circulation of objects of art is of great importance, and cannot but have a refining and educating effect on those whose tastes are sufficiently raised by cultivation to appreciate them, and to supply the local museums and art schools with the best specimens available is one of the most important duties of the South Kensington Museum.

THE VENTILATION OF SEWERS.

At the recent meeting of the British Medical Association, Mr. J. M. Fox, M.F.S., read an exceedingly valuable paper on the above subject. The author is Medical Officer of Health, Cockermouth, and he evidently has given the subject much attention, as will be seen from the portion of the paper which we print:—

In regard to the ventilation of the main sewers, which properly came under the control of the sewer authority, I desire to offer one or two observations.

1. So rapid has been the advance in sanitary science that it is remarkable that a system of ventilation which was adopted ten or fifteen years ago should be at the present time so little susceptible of modification. Such modification would consist, I imagine, mainly in the omission of the charcoal baskets from the openings adjoining the man-holes which have been placed in most of our sewer systems for the purposes of ventilation. Mr. B. Latham has, it is true, designed a spiral arrangement of charcoal trays, in which the escaping gases pass over and not through the charcoal, which may be freer from objection. But the opinion of sanitarians has been of late that the main and all-important purpose of free ventilation should exclusively occupy our consideration in regard to such openings, and with this view the charcoal media may well be dispensed with. I know myself of a town in which the trays of comminuted charcoal, filling up the entire ventilating chamber in every case, were left undisturbed for seven years. The interstices between the pieces of charcoal being occupied by road detritus, it may be imagined how completely the possibility of ventilation by such openings was precluded. This is, I believe, only an exaggerated instance of what often occurs. Hence we have Mr. Simon wisely saying in a recent report, “The use of charcoal trays in gullies, in the hope to disinfect their effluvia, has repeatedly proved dangerous.” He adds that “street gullies should, as far as practicable, be left untrapped;” and he boldly affirms that “complaints of nuisance from any such gullies should not necessarily be taken as a reason for trapping them,” inasmuch as “the nuisance which such a sewer

occasions in the public way is far less important than the risk incurred by the inhabitants of the houses which drain into the sewer.” If it were necessary, other confirmatory testimony might be adduced. But I imagine the experience of every urban medical officer of health will afford abundant illustration of the point I am seeking to impress, namely, that free sewer-ventilation is an object of such paramount importance, that openings designed for that end should be left as far as practicable unobstructed. I should therefore recommend that all gullies in close proximity to houses be left trapped as heretofore, but that large surface gratings, remote from dwellings, should have their traps removed, or at any rate only such screeners allowed to remain as would intercept the obstructive material from the roads which would wash into the sewers in a time of flood. Such gratings should be carefully noted, and would require attention at fixed and not too distant intervals, for the purpose of removing the ever-accumulating road detritus. In addition, from all ventilators connected with man-holes in the higher levels of towns the large charcoal trays should be removed, so as to allow the freest possible exit to whatever gases might be seeking their escape. And in all ventilators of this kind it would be well that the charcoal placed therein should be broken in large and irregular masses. The air passages between such masses would thus be more free and ample, and ventilation through them would, to that extent, be more unimpeded. For it is well known that, in order that charcoal may exercise on air its purifying power, it is not necessary that the air, like water for a similar purpose, should filter through it. Foul air, in contact with charcoal merely, or passing over it, loses much of its foulness. Perhaps, therefore, bigish blocks of charcoal might be allowed to remain, and thus its antiseptic qualities might, to some extent, be realised, and the vent to gases be not at all, or but little, interfered with. 2. It must not be imagined, however, that these openings act always and exclusively as outlets to foul air from within. Doubtless, in accordance with Graham's law respecting the diffusion of gases, there is a constant interchange of air on each side of the grating. But there must be times when the ventilators, under the influence of winds blowing over different levels, act in an entirely reverse way, namely, for the introduction of fresh air to the sewers. Otherwise the term ventilator applied to such openings becomes a complete misnomer. Thus we have Dr. Fergus saying at Glasgow, in 1875, “The term ‘ventilation,’ I should suppose, means the replacing of foul air by fresh air, of which the various plans proposed certainly fall short? They do indeed provide for the escape of a certain portion of foul air from the sewer into the open air—not however to be replaced by fresh air, but by equally foul air, from the decomposition going on in the sewer. . . . Indeed ventilation, strictly so called, hardly exists.” Though I do not think that Dr. Fergus makes sufficient allowance for the constant operation of Dr. Graham's law, to which I have alluded, yet, practically, foul air is left far too long to stagnate in the sewers, and the introduction of currents of fresh air, which, in that proportion, should displace the foul, is too little regarded. As this paper is based only upon my own actual experience and observation, I will only mention the two methods of accomplishing this object which I have myself witnessed. (1.) The first is the old plan of connecting the sewers with factory chimneys in different parts of a town. Thus in Whitehaven, which is exceptionally situated in this respect, as all the shafts suitable for this purpose are on the highest levels, this has been accomplished with the best results. The sewers at their highest terminations are connected with some of the largest chimneys and furnaces in the town; and the surveyor, Mr. Stiven, reports to the trustees that in consequence he has now no complaint of smells, either in houses, or in the neighbourhood of the open street ventilators, such

complaints having been numerous previously. Mr. Stiven also adds that "As a proof of the strong current of air travelling in the main sewers leading to the up-cast shafts, it is most difficult to carry an open light in any of them." Nor has this the effect of unsealing any of the traps in the various connections; the current being established between the open ventilators and the terminations. I am able to bear testimony from personal knowledge to the efficiency of this arrangement; and I may state the fact also, that the number of deaths from typhoid fever has been fewer each year since its adoption. But there are many towns, and sections of towns, to which this plan would be entirely inapplicable, either from the absence of the necessary mills, or on account of the unfavourable contour of the ground, when such are present. (2.) A remedy, however, is at hand which I will proceed to mention, after stating two objections to the system of ventilation by mill chimneys. The first is that the current would be at times too strong, so as to have a tendency to unseat the adjacent traps; or, when the mill was not working, there would be no current at all. And, second, means of ventilation cannot be placed where most required, but can only be provided in situations where chimneys may exist. This is reversing the natural order. The means of ventilation should be adapted to the sewers, not the sewers to such means. In fact it is an accidental plan which may suit some localities; but as a general system of sewer ventilation it is, as mostly inapplicable, valueless. If I mention, in passing, that the connection of house-flues with the sewer is universally condemned on account of the frequent down-draughts which occur, I shall be able to state that all necessary conditions are fulfilled by an admirable ventilating cowl recently designed, and which supplies the important want in question.

THE CITY COURT-HOUSE.

THE City Architect, Mr. John Stirling Butler, has been ordered to prepare a report as to the state of the Court-house, Green-street, giving practical suggestions for its re-arrangement, so as to render it more convenient to the public. The important matter of proper ventilation is to be specially studied.

THE CITY GAS.

On Monday, at an adjourned meeting of the Municipal Council, a report was read from a committee of "the whole house" who have been considering the terms of a new contract with the Gas Company. It is recommended that the contract be for *three years only*.

Mr. Byrne said the report just read was a most injudicious one. The contract of the Council with the Gas Company would terminate on the 31st of next December. The report, if acted on, would have the inevitable effect of causing the question between the Gas Company and the Corporation to be arbitrated upon by the Board of Trade; and those conversant with arbitrations before that body knew that gas companies always came off best before them, and local authorities second, it being the opinion of the Board of Trade that local authorities had no right to get public lighting at a farthing less than the price paid by private gas consumers. The Council would be obliged to pay 4s. 9d. from January next for gas alone, besides the cost of maintaining in repair the lamps, columns, and fittings, which were the property of the company, and the interest of some £15,000 or £20,000, the value of those lamps, columns, and fittings. The result would be, that they would have to pay about £2,500 a-year more than they ought for their gas service.

Mr. Dennehy said that were it not for the Corporation the citizens of Dublin would be getting gas for £40,000 or £50,000 a-year less than they were at present paying for it. The interference of the Corporation in the question was most unfortunate. Mr. Clemen-

shaw, the gentleman whom the Corporation employed, but did not pay, stated before a committee of the House of Commons that Dublin ought to have 16-candle gas for 8s. 6d. per 1,000 cubic feet, and 20-candle gas for 4s. 6d. per 1,000 cubic feet.

The discussion on the "Light" subject will be resumed on Friday next.

IS A "JERRY" NOT A MAN?

Has a "Jerry" not some feeling,
Has a "Jerry" not some pluck,
Why are men so fond of stealing
His good name when he's in luck?
Lawyers on their clients batten,
Why should we bear all the ban?
Doctors on their patients fatten,
Is a "Jerry" not a man?

Yes, I boldly ask the question.
Men are fools and men are flats,
Some folks die of ill digestion,
Care kills more as care kills cats.
Are we dogs to take our licking,
And not bite when'er we cau;
Are we fit for nought but kicking;
Is a "Jerry" not a man?

Has the world no evil doers
On its surface but our class—
What of vintners, what of brewers—
Why are we not let to pass?
Fraud has carvers and has gilders,
Bricks and mortar all can scan;
Though we're known as "Jerry Builders,"
Is a "Jerry" not a man?

Spite of all the world may utter
'Gainst our trade in rotten bricks,
'Gainst our use of mud and gutter,
'Gainst our sundry other tricks,
We are proof 'gainst law and malice,
Still we'll chose our site and plan;
Though a "Jerry" may be callous,
Still, a "Jerry" is a man.

A CHAP.

LEAKE CHURCH AND HALL, YORKSHIRE.

On the 7th ult. the members of the Falcon Lodge of Freemasons, accompanied by the vicar, the Rev. A. T. Atwood, M.A., visited Leake, and inspected the Church and Hall. Here, many centuries ago, stood a large village, which was destroyed by successive attacks by the Danes, the Normans, and the Scots, its existence and extent being yet partially traceable in the ridges and buried foundations found in the neighbouring fields. The church, dedicated to St. Mary, stands in proximity to the hall, and is a venerable building, comprising nave, chancel, aisles, porch, and an interesting tower in the Anglo-Saxon style. The tower and nave are evidently the oldest parts of the structure, and without buttresses; the chancel has a buttress at each angle, and one on each side, the entrance door of the chancel being through one of the buttresses. The east window is of four lights in the perpendicular style, and filled in principally with plain glass; those of the nave, clerestory, and chancel, of two lights each. The roof is of low pitch, and covered with lead, and over the entrance to the porch is a sun-dial inscribed *Labitur et Labetur*.

The three arches dividing the north aisle from the nave are circular, as is also the arch opening from the nave into the basement of the tower; all the capitals differ, and are adorned with sculptured foliage. It is matter for conjecture whether the south aisle may not be of later date, the arches being pointed. One of the capitals deserves special notice, being carved into a profusion of oak leaves and acorns. The existence of a *piscina* in the wall of the south aisle seems to indicate that at some time there had been a small chapel here. In 1854 the church was renovated, and several alterations made. The stalls throughout are of oak, and in excellent preservation; two panels inserted in the screen to the pulpit have originally belonged to the squire's pew, and show some singular ornamentation. Two of the stall ends, removed to the chancel, are unusual specimens

of carving in oak, although one of them has been partially mutilated, and bear figures of nondescript animals, symbols with brief legends, and the date of the work, 1519. The tablets in the chancel do not possess much interest, but in the middle aisle of the nave is a brass one with male and female figures, and in excellent preservation. The largest bell in the tower was brought from Riveaux Abbey.

The parish registers commence in 1570, during the Protectorate, from 1648 to the Restoration in 1660. The church of Leake appears to have been shut up, as no entry is made in the registers during the whole of those twelve years; and it seems as if not even a Parliamentary Sequestrator had been appointed, as no mention is made of the parish in the Parliamentary Surveys of 1649 and 1655. Kepwick, in this parish, belonged to Lord Fauconberg, who married the third daughter of Cromwell.

Having crossed the churchyard, in which stone coffins have frequently been found, the party visited the *Danes' Lane*, said to have been associated with the massacre of the Danes, A.D. 1002, and Mr. Atwood read a remarkably interesting statement, taken from the lips of an old man, to whom it had been handed down by oral tradition. Several years ago a great quantity of skeletons were discovered in that part of the churchyard adjoining the lane, apparently having been indiscriminately thrown together, as into a pit, and indicating some great and terrible destruction of human life: as also many silver coins, principally of the coinage of Edward I., and minted at York.

Leake Hall, the only remaining house in the village, has been occupied for 200 years by the Morton family, and was formerly one of the residences of the Danbys and Scropes. It is an antique building, retaining many of the features of the manorial houses of the sixteenth century, a wide staircase of massive oak, and having its rooms wainscoted in panels. These, together with a curious old painting on oak, but in a very dilapidated condition, representing the events of our Lord's Passion, were very kindly shown to the party.—*Freemason's Chronicle*.

HOW THE MONEY GOES—A TALE UNFOLDED!

SOME months ago during an interview with one of the officials at the City Hall, who is supposed to fill the position of Secretary to one of the Committees, the proprietor of this journal was informed in the most impertinent and uncalled-for language that "the energies of the IRISH BUILDER appear to be devoted solely to abusing the Corporation!" We must confess that we have not been too lenient betimes when they deserved reproof. Read what is reported below as having occurred on Monday at the City Hall. The *Express* remarks that "it has been represented that a portion of the Press has made a 'dead-set' upon them [the Corporation], and serious charges, which were *unanswerable*, have been met by an appeal to the generosity of the public not to listen to them."

THE STATE OF THE STREETS—STRANGE PROCEEDINGS.

Mr. Dennehy moved the adoption of a report of the committee of the whole house, recommending the appointment of a surveyor for the inspection and charge of works under No. 1 Committee, and the wearing of a distinctive and uniform article of dress by the street inspectors. He believed an absolute necessity existed for having a responsible officer to take charge of the street works. The repairs, the cleansing, and the improvements were, under the present system, done in a very inadequate manner, and consequently there was much dissatisfaction. There were to be seen in High-street that day great boulder stones almost impossible to ride over. There were many complaints

of the way the scavenging was done; and besides the inconvenience caused by this, it was a serious source of danger to health. The present state of things was disgraceful.

Mr. George O'Neill seconded the adoption of the report.

Mr. Byrne thought it was not more officials, but more carts, horses, and brooms that were needed. They had at present the city engineer and two assistants,—Mr. Hartly and Mr. Andrews; two street inspectors, one for each side of the city; a superior inspector of scavenging, and the sub-committees of No. 1 Committee. Surely this was a sufficient staff. If Mr. Neville did not attend to the streets, what were Mr. Hartly and Mr. Andrews doing? According to the returns of 1875 not less than £10,000 worth of stones were annually spread over the streets of the city. That was an enormous outlay for one item, and needed the most careful watching. A committee sitting in a room were not the proper persons to look after the practical operators upon the streets. Besides, he found at No. 1 Committee a lax system of dealing with officers. Men that committed serious faults were let off, and no improvement was effected. In one instance an officer, who was shown to have neglected his duty through intoxication in the day-time, was given night work, in order, it might be supposed, that he could get comfortably drunk in the darkness!

Mr. Gray mentioned several cases in which Committee No. 1 had dealt too leniently with their officers. In one instance it was found that a contractor and sub-contractor had altered a return, by placing 5 before 1, so as to make it appear that 51 tons, instead of one ton, of macadamising stuff had been supplied. The law agent, to whom the matter was referred, found that owing to the muddled state of the contract no prosecution could be sustained. It was well known that some of the officers connected with the street department were addicted to intemperance. There was no use in having a responsible officer unless his duties were defined, and he suggested a select committee to deal with the subject.

The Hon. J. P. Vereker proposed as an amendment that Mr. Hartly, assistant engineer, be declared street surveyor, and responsible for the way the work was done.

After a protracted discussion, the report was adopted, and Mr. Hartly was named as the person to take charge of the duties, which a select committee to be appointed shall define.

THE ROYAL HISTORICAL AND ARCHÆOLOGICAL ASSOCIATION OF IRELAND.

THE quarterly meeting of this association was held on the 18th ult. in the Museum, Patrick-street. P. Burtchaell, Esq., County Surveyor, occupied the chair.

The Rev. James Graves said that it was within their knowledge that an eminent honorary secretary of the association had been lost to them in the death of Mr. Prim. It would be necessary to have another secretary, and he would propose—"That Richard Caulfield, Esq., LL.D., F.S.A., be provisionally elected honorary general secretary of the Royal Historical and Archæological Society, to be confirmed at the annual general meeting." Mr. Caulfield will be a very efficient secretary, having been from their commencement secretary for Munster.

The Rev. Charles Vignoles seconded the proposition, which was carried unanimously.

The Rev. Mr. Graves said that they had also lost at various times since January three members of the committee—namely, Mr. R. R. Brash, of Cork, a well-known archæologist; the Rev. Luke Fowler, and Mr. Matthew O'Donnell, Q.C. There being three vacancies in the committee, he begged to propose the Rev. Samuel Hayman, M.A., the Rev. John Francis Shearman, of Howth, and Robert Day, Esq., F.S.A., be provisionally elected members of the committee. Mr. Hayman was well known as an archæologist

and writer of the history of his native town. The Rev. Mr. Shearman and Mr. Day would also be valuable acquisitions to the committee.

The following were duly elected members of the Association:—The Rev. W. Reynell, B.D.; Henry C. Ball, John Love, and John Dawson Breen, J.P.

THE LATE MR. JOHN G. A. PRIM.

The Rev. Mr. Neary said he felt a sort of melancholy pleasure in rising to make a proposition. During the past year they had lost one of their honorary secretaries, and as a Kilkenny man he always felt proud to be associated with the late Mr. Prim in this association, for with the aid of our other worthy secretary (the Rev. James Graves) they succeeded by their unpurchaseable services and their untiring exertions in making a high literary reputation for Kilkenny not second to that of any other city or town in the country. At their first meeting after Mr. Prim's demise they passed a vote of condolence with his family, in recognition of his services during a whole generation. They ought to go a step farther in order to prove their sincerity, and in some way perpetuate the memory of Mr. Prim in a city which owed him so much, and transmit to future generations in some abiding form the respect which his fellow-citizens and fellow-countrymen at large owe to his memory.

Mr. P. Watters, solicitor, said that he had great pleasure in seconding the resolution.

Mr. J. Hogan supported the proposition, and said that everyone who knew the late Mr. Prim would feel proud to take a part in this movement, and it would be very ungrateful on their part, especially on the part of that association, if they did not prove by their acts how much they valued the late Mr. Prim's services.

The Rev. Mr. Graves said that he need not tell them how much he felt as a friend the loss of the late Mr. Prim, whether as regards his services in connection with the association, or as regards historical literature and antiquity in general. He had received several communications from various parts of Ireland on the matter, including one from their late county member, Mr. Agar Ellis. As to what form the memorial should assume, that was for consideration; but as to an elaborate monument over his grave, that would be more a matter for his family than for an association like that. He (Rev. Mr. Graves) knew from his knowledge of the late Mr. Prim that if he could be consulted he would wish for something that would be of use to his native city and promote what he had so much at heart. The form they might decide upon for this memorial would have a great effect on the success of the movement.

The Chairman said that the Rev. Mr. Neary had put the matter into practical shape for discussion.

The Rev. Richard Deverell said the movement should be extended outside the association.

The Rev. Mr. Graves said that he hoped the movement would be universally supported. If they could establish a public institution which would be the nucleus of a museum and public library, it would be a memorial worthy of the man. Of course, that meant a very considerable sum of money; but the association was a large one.

A discussion then took place as to the probable cost of obtaining the old house of the Rotheres for the purpose. The Rev. R. Y. Heatley, Mr. P. Watters, and Rev. T. Hare took part in the discussion.

The Chairman said that there could not be a more suitable idea than the one suggested by Mr. Graves.

The further consideration of the question was postponed till Wednesday, the 15th November, when a special meeting will be convened at the Tholsel.

Several contributions to the museum were received. Papers were contributed by Mr. Wakeman on a megalithic chamber on the summit of Knockanny, county Tyrone, and by Mr. Dillon on ancient modes of burial

in Ireland. The papers will appear in the Journal of the Association's transactions.

The Rev. Mr. Graves said that he had officially visited Glendalough since their last meeting, and he was very well satisfied with what was being done under the Board of Works to preserve the ancient Irish monuments there. The workmen had re-erected the beautiful arch in the monastery. In the progress of the work the foundation of another church had been discovered, close to St. Kevin's house, and a sketch of the ground plan was forwarded by Mr. Scott, who is in charge of the work. The work of preserving the ancient monuments in Cashel and other parts of Ireland had so far been very well done.

Mr. Hogan said that he, in company with the Rev. P. Neary, had recently paid a visit to Clonmacnois. He wished to make a few observations on the singular ruin there called Tempul Finghin, or Tempul Finnian. The peculiarity of this old building is that a round tower forms part of a structure evidently erected for christian worship, whence it is argued that the round towers are of christian origin. Dr. Petrie writes—"The round tower which is attached to this church forms an integral and undoubtedly a contemporaneous part of the structure." Now, notwithstanding this high authority, an examination of the building will at once convince an enquirer that the church and round tower belong to distinct periods, the tower as a matter of necessity having been in existence before the church had been erected. The evidences by which this conclusion is arrived at were as follow—First, at the place where the roof of the chancel came in contact with the north side of the tower the masonry of the latter has been battered away to allow the roof to be inserted within it. There is no water-table, nor are the stones dressed to receive the roof, clearly showing that at the time the tower was erected there was no idea entertained by the builders of a roof coming in contact with it. Secondly, on the north side of the tower there is a window opening or aperture that could serve no conceivable purpose of either egress, light, or vision, if the roof of the chancel was to come in contact with it. The roof did come in contact with it, therefore it will follow that the builders of the tower in forming this aperture did not intend to have it concealed by a roof; but, thirdly, and principally, at the junction of the south wall of the chancel with the tower there is no bonding in the masonry, the wall of the tower is cut down, and the wall of the chancel is inserted within it, and where the eave course of the chancel wall joins the tower, only a portion of the stone in the latter is cut away, as the wall of the chancel was to be inserted only so high—all of which prove that the tower of Tempul Finghin, like the other round towers of Ireland, originally stood isolated from any buildings, and that its union with St. Finian's Church is of a comparatively late period to its own foundation. In making this statement he begged to say that his prejudices had nothing to do with the conclusion he had arrived at, as he had no faith in the pre-christian origin of the towers, and he thought he could say for the Rev. Mr. Neary that his views on this point coincided with his own.

The Rev. Mr. Neary said that both himself, Mr. Molloy—a most intelligent local antiquarian—and Mr. Hogan, spent nearly three hours investigating the details of this old church, and all three agreed in the views just now stated by Mr. Hogan.

The Rev. Mr. Graves said that the late Mr. Brash agreed with Mr. Hogan also. Tempul Finghin belonged to the twelfth century, and was built about the period 1130 or 1150. The architecture was the same as the Nun's Church, which they knew to be of that period. The tower itself was acknowledged to be a christian tower, built in imitation of the ancient tower, because the hanging iron remains to the present, which would not be the case if built in pre-historic times.

The proceedings soon after terminated.

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

WHEN Thomas Moore, our national bard, was making his first appearance publicly as a poet, at the age of thirteen or fourteen, in the pages of the *Anthologia Hibernica*, Thomas Dermody, another native poet a few years older, was writing in the same magazine with an acknowledged reputation. Not a suicide like poor Chatterton, yet nearly as unfortunate, was our Dermody. Youthful, wild, and reckless, with plenty of friends and patrons willing to help him, and who did help him, yet Dermody plunged into excesses—drank and starved and starved and drank, and then enlisted. Bought out of the army, after a time he returned to civil life again, only to renew his errors and offences. He was a wonderful genius for his youthful years, for the poems he wrote even in his teens are marvellous productions. He had for his friends and patrons some of the leading members of the Irish Houses of Lords and Commons; but he wearied out and offended all by turns. In the last decade of the last century one of Dermody's best and fastest friends was an actor named James Grant, who afterwards became his biographer, and who is more generally known under the name of James Grant Raymond.

Grant was a Scottish Gael by birth, and during his earlier years appears to have led a rambling life. After spending some years as a midshipman, he resolved on taking to the stage, for which he had a great taste. His first public appearance, we believe, was on the boards of one of our Dublin theatres in the character of the "Indian Prince." The Dublin manager was satisfied with his performance, and so were the Dublin audience. After playing for some time, he assumed the additional name of Raymond, either, it is thought, to conceal his own or to confer a new interest on his novel speculation. Under Mr. Daly's management of the Dublin theatre, James Grant Raymond acted the parts of Jaffier and Castilio with considerable success, and he also acted for some time as stage manager.

It is not our intention to write a biographical sketch of our subject, but merely to draw out a few historical points connected with Dermody and our own city. In 1793 Mr. Raymond married Frances, the daughter of Mr. Carmichael, of Dublin, who survived her husband, together with two sons and two daughters. Raymond, before passing over to London, had acquired a good reputation as an actor on the boards of the Dublin theatres. His fame increased in London, and he eventually became manager of Drury-lane Theatre. James Grant Raymond died in 1817, at his house in Chester-street, Grosvenor-place, Hyde Park Corner, in his fifty-first year, after a very short illness. Soon after his death a play was performed for the benefit of his widow and children.

Mr. Raymond was the author of the "Life of Thomas Dermody," in two volumes 8vo., published in 1805, to which is attached a portrait of the unfortunate poet. He also published "The Harp of Erin, or Poetical works of Thomas Dermody," two vols. 8vo., 1807. Mr. Raymond was also the author of two unpublished tragedies. The kindness and untiring generosity of Raymond towards Dermody redounds greatly to the credit of the former, and shows that he acted more than the part of a father to the wayward and unfortunate poet. Raymond was in time to witness the poet's last gasp, after missing him for several days, and not knowing his whereabouts. It was a sad death-scene—"poverty, hunger, and dirt!" Before his death the dying bard had written on a scrap of paper the following lines:—

"O, place his dear harp by his side—
His harp, alas! his only hoard!
The fairy breeze at eventide
Will trembling kiss each weeping chord."

The poem in which these lines occur is one of eleven verses, entitled "Elegiac Stanzas," written by Dermody, and which appeared in the *Anthologia Hibernica* in January, 1794.

The poem, as a whole, when written, was indicative of Dermody's own feelings at the time, and pictures he drew years before doubtless flashed across his memory in his dying hours. If our memory serves us aright, Dermody died at Sydenham, near the present Crystal Palace, and lies buried in the old churchyard of that place.

In the early part of the present century, as well as in the last century, many devices were resorted to by recruiting sergeants to pick up a "king's man" or recruit. We know of a case that occurred some years ago in Dublin, when a fine, stalwart, good-looking young fellow, sitting at a tap-room table opposite a recruiting officer consented to "take the shilling." The crimping sergeant appeared proud of his man, and thought he was as sound in limb as he appeared in body and face. The idea never struck the recruiting sergeant to look under the table to see had the king's man a pair of serviceable legs. When the money was all spent, the crimping sergeant, addressing the raw recruit, said—"Now, my man, it is time for us to be on the move." "With all my heart," replied the stalwart recruit, with a roguish twinkle in his eye; so, getting up, he hobbled into the centre of the room, with one living leg and another timber one. "Sold," said the sergeant. "I am rather inclined to think so," said the recruit; "but I am ready to serve his majesty if he will accept me."

Going back to the year 1793, we find a public-house proprietor of the name of James Sewell, in Barrack-street, arraigned at the commission of oyer and terminer, on indictment for an assault and illegal imprisonment of Robert Stephen Williamson, of the Dublin Post-office. It appeared that the prosecutor, who had spent a day in the country, was returning to town through Barrack-street, between nine and ten o'clock in the evening. Hearing a fiddle playing in the house of Sewell, he stopped, and was invited in by Sewell and a Sergeant Kelly, and having gone in threw a shilling towards Williamson, which he took up and threw back again to Kelly. Upon this Kelly and Sewell told him he was the "king's man," and that the shilling was to drink his Majesty's health. Williamson remonstrated with them, and informed them that he was not of that class of persons who commonly enlist as soldiers, holding an employment in the Post-office. Notwithstanding, they detained him as a prisoner all night and the next day, and between three and four in the afternoon, he was hurriedly conveyed in a coach down to Rogerson's-quay, and sent on board the Mary Sloop, a tender lying in the harbour. Here Williamson received gross abuse from the parties, and was detained until the following day, when, getting an opportunity of sending a message to the Post-office, he was liberated by the Lord Mayor and one of the sheriffs. Sewell was found guilty, and Kelly not appearing until the trial was over, was ordered to Newgate to await his trial at next commission.

Some low publicans in Dublin and other places used formerly play into the hands of recruiting sergeants, and share in the proceeds gained by "crimping." Many a young man was hurriedly spirited away, kidnapped in a similar manner as Williamson, put aboard the tender at Ringsend, and then "off to the wars." What with "press-gangs" and crimping sergeants our grandfathers had a hot time of it in running the gauntlet, and keeping a whole skin.

In 1749, the celebrated George Berkeley, Bishop of Cloyne, wrote "A word to the Wise, or an Exhortation to the Roman Catholic Clergy of Ireland." He pointed out what might and could be done by the latter in the way of promoting morals and industrious habits among our people, and of socially elevating them. There are some very strong remarks in Berkeley's address respecting the condition of our labouring classes at that period, and of the idleness to which they were addicted, and of the beggary that dis-

graced our country, many preferring to beg rather than work—a fault still common enough in our times. Though Bishop Berkeley gave some hard knocks to the Catholic clergy of the time, yet after his address appeared, the printer of it received a letter from the Roman Catholic clergy of the Diocese of Dublin, desiring it to be inserted in the *Dublin Journal* [Faulkener's, we suppose] of November 18th, 1749. In this letter the Catholic clergy thanks Berkeley for his address, acknowledge the correctness of his views, and say that they will follow his advice "in recommending to their flocks, industry and due application to their different trades and callings as an indispensable duty, and the means of avoiding the many vices and bad consequences which generally attend criminal poverty and want." In concluding their answer, the Catholic clergy also add:—"But the more effectually to prevent those evils, and remove all excuses to sloth and idleness; they have several months ago, pursuant to the examples of many Bishops in Lombardy, Spain, Naples, &c., taken steps most proper and expedient, in their opinion, to lessen considerably the number of holidays in this kingdom; and they make no doubt but their expectations will, in a short time, be fully answered, to the great advantage of the public." Here are some of the pictures, the sad pictures drawn by Berkeley in his address in 1749. "The house of an Irish peasant is the cave of poverty; within you see a pot, and a little straw; without a heap of children tumbling on the dunghill. Their fields and gardens are a lively counterpart of Solomon's description in the Proverbs: 'I went, said the wise king, by the field of the slothful, and by the vineyard of the man void of understanding, and lo! it was all grown over with thorns, and nettles had covered the face thereof, and the stone wall thereof was broken down.' In every road the ragged emblems of poverty are displayed; you often meet caravans of poor, whole families in a drove, without clothes to cover or bread to feed them, both which might be easily procured by moderate labour. They are encouraged in this vagabond life by the miserable hospitality they meet with in every cottage, whose inhabitants expect the same kind of reception in their turn when they become beggars themselves, begging being the last refuge of these improvident creatures."

There was no poorhouse or workhouse for a last refuge in Berkeley's time; but even now there are many of our countrymen too proud to go into the poorhouse, but not too proud to beg from those nearly as poor as themselves. Here is another extract from Berkeley's address in 1749, and much of it held good down to our own time:—"The Scythians were noted for wandering, and the Spaniards for sloth and pride. Our Irish are behind neither of these nations, from which they descend, in their respective characteristics. Better is he that laboureth and abounded in all things, than he that boasted himself and wanted bread, said the son of Sirach, but so said not the Irishman. In my own family a kitchen wench refused to carry out cinders because she was descended from an old Irish stock. Never was there a more monstrous conjunction than that of pride with beggary, and yet this prodigy is seen every day in almost every part of the kingdom. At the same time these proud people are more destitute than savages, and more abject than negroes. The negroes in our plantations have a saying—If Negro was not Negro, Irishman would be Negro. And it may be affirmed with truth that the very savages of America are better clad and better lodged than the Irish cottagers throughout the fine fertile counties of Limerick and Tipperary."

Throughout his address Berkeley lays bare many abuses, and for the most part his rebukes at the time were well deserved. Several of the evils depicted by Berkeley were removable by the people themselves, a few others, however, needed Government assistance or landlord co-operation, neither of which were forthcoming for an almost

proscribed class. It was Bishop Berkeley's opinion that "a tight house, a warm apparel, and wholesome food are sufficient motives to labour. If all had them, we should be a flourishing nation. And if those who take pains may have them, those who will not take pains are not to be pitied; they are to be looked upon and treated as drones and pests of society." Berkeley replies to those who say they have nothing to improve upon, nothing to begin the world with, that "they have their four quarters and five senses," and asks them—"Is it nothing to possess the bodily organs sound and entire? That wonderful machine the hand, was it formed to be idle?"

Who can refute the sound logic of the Irish philosopher and Christian bishop, who, though he might differ in point of doctrine with his Catholic countrymen, was ever ready to assist them and all men in bettering their condition? H.

HOME AND FOREIGN NOTES.

The Hudson River Tunnel from New York to Jersey City is to be two miles in length. Cost 15 million dollars.

By an order published in the *Dublin Gazette*, further interments in Killester burial ground have been prohibited by the Local Government Board.

A new pulpit has been erected in Mallow Church, County Cork. It is octagonal on plan, and is of Caen stone; the panels are of red marble, and the columns of green marble, with neatly carved capitals and bases. It was supplied by Messrs. Sibthorpe and Son, of Great Brunswick-street.

HEALTH OF DUBLIN.—The deaths registered in the Dublin registration district during the week ending 21st October represent an annual mortality of 16.4 in every 1,000 of the population. In London the death rate was 18.3; Glasgow, 21.3; and in Edinburgh, 11.6 in every 1,000. There were only 13 deaths from zymotic disease registered in Dublin during the week.

THE OPENING OF ST. STEPHEN'S GREEN.—The following have been appointed by the Corporation as a select committee to prepare the draft bill and parliamentary notices necessary to carry out the resolution of the Council for the opening of St. Stephen's Green as a public park:—Aldermen McSwiney, Tarpey, and Fry; Councillors Dennehy, Long, Gunn, Bury, Brooks, M.P., Gray. It was resolved, by a majority of 22 to 1 that no further action which shall involve expense be taken without the order of the Council,—the drafting of the bill and publication of notices excepted.

FAIRS HELD IN A TOWN.—From the evidence given to the Government Commissioners at their inquiry at Nenagh it appears that there are 12 fairs held in the town during the year. Five of these are new fairs, got up by the commissioners, and are toll-free. The other seven fairs are held under a patent granted to the lord of the soil, at which tolls are paid. The fairs are held in the streets of the town. There had been a motion made at a meeting of the commissioners with regard to having the fairs removed to a field outside the town; but the majority of the commissioners voted for keeping the fairs in the streets for the benefit of the shopkeepers. Seven or eight of the commissioners keep public-houses. The state of the streets after fair days is filthy, but they were cleaned by the contractor the next day. The water supply, generally speaking, is sufficient.

NEW BRIDGE OVER THE BLACKWATER.—The Board of Works have notified to the Youghal Town Commissioners their approval of a site for a new iron bridge proposed to be erected over the Blackwater above Youghal for the purpose of connecting the counties of Cork and Waterford. After repeated efforts, the grand juries of the two counties were induced to give their consent to the erection of a permanent structure. As between the two sites selected, the Government have given their approval to the site of the present timber bridge, recommending, however, that the causeway should be extended to the line of low water mark. In the proposed structure there will be six arches, each 100 feet wide, and a drawbridge to facilitate navigation.

NARROW-GAUGE RAILWAYS IN IRELAND.—The question of the construction of narrow-gauge railways in Ireland is attracting increased attention. Mr. William Lewis, C.E., in a letter to Professor Hall, the Director of the Geological Survey of Ireland, whose communication upon the sub-

ject we published in our last issue, writes.—"The advantages of the narrow over the wide gauge may be summarised thus: Cheap cost of original construction; cheap working expenses; strong, handy, and effective rolling stock (strength being important); profitable to dead weight carried in the ratio of at least 2 to 1; cheap engines and sufficient rolling stock, suitability to mountainous districts, where the cost of a wide-gauge railway would not justify its introduction, and, if made, could not possibly pay; further, the narrow-gauge relieves traffic from country roads through mineral districts, and where the cost of maintenance should be necessarily heavy; and supercedes traction engines and heavy cartage from roads; and, from the less height of the engines and carriages than on wide-gauge railways, leaves interference with country roads—comparatively with wide-gauge lines—harmless." Mr. C. E. Spooner, C.E., of the Festinog Railway, concludes a letter upon the subject as follows:—"Railways of this description cannot fail to prove of enormous benefit to Ireland, by opening up districts where lines of the ordinary gauge would be financially impracticable."

At the Kingstown police court the sanitary officer for Blackrock district summoned two residents for having pumps from which the water was impure. By a report from Dr. Cameron it appeared that the water in question was the worst possible kind, containing a quantity of solid sewage matter and other ingredients of the most dangerous character. One of the defendants expressed his thanks for being summoned. His family had suffered extreme illness, which he believed arose from using the water in question, and he had not allowed it to be used lately. His rent was paid through a receiver, and he did not know who was the person who should close the pump and put in the Vartry water. The Magistrate ordered the pump to be closed at once.

At the Northern Divisional Police Court, on Thursday, two milk contractors to the North Dublin Union Workhouse were fined in nominal sums of £5, £5, and £2, for supplying to the guardians milk adulterated with water to the extent of 12 and 20 per cent. The following dairy proprietors were prosecuted at the instance of the Pembroke Township Commissioners, for selling milk adulterated with water:—Julia Doyle, Seapoint-avenue, Sandymount, 25 per cent. of water, £4; Charles Cosgrave, Dundrum, 20 per cent. of water, £3; Denis Farrell, Seapoint-avenue, Sandymount, 50 per cent. of water, £9; Julia Smith, Thomas-street, Ringsend, 25 per cent. of water, £4; James Carroll, 2 Irishtown-road, 25 per cent. of water, £4; Margaret Byrne, Cambridge-road, 20 per cent. of water, £3.

TO CORRESPONDENTS.

ARCHITECTURAL "TOUTING."—This evil is not a "new departure," but has existed for many years. So long as our architects as a body are disinclined, few will study professional etiquette. "Everybody for himself" is a very good maxim with its proper application. In the upholding of an honourable profession, however, the greatest happiness of the greatest number should be considered.

A GAS CONSUMER.—We have anticipated your thoughts, as you will see by present issue.

A CITIZEN.—We quite agree with you, and are free to confess that our Corporation "cannot do everything," but they can do much if they have a desire to do it, in a sanitary direction.

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C. E. (Belfast).—If the paper is sent simultaneously we will make use of it.

J. C.—We cannot insert your notice unless paid for as an advertisement.

RECEIVED.—H. Y.—M. D.—A Builder—An Artist (Derry)—A Pupil of the Dublin School of Art (We will look up the question)—J. W.—An Operative (Procure Kludell's "Hand-railing," and "Practical Carpenter and Joiner"—J. H.—O. B., and others.

* Several articles (in type) are held over until our next issue.

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5	12	5 1/2	42	220	25	5 1/2	4 1/2	2 1/2	5 1/2
60	10	5	36	175 1/2	22	5	5	13	30
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9	9 1/2	3 1/2	24 1/2	90	25	4	2	8 1/2	14
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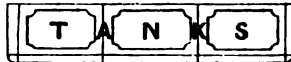
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PRESS NOTICES.

Athenæum.—We cannot now continue an examination of the contents of Mr. Brash's capital book. Let it suffice them that we recommend the perusal of the chapters on the churches of the Cistercian Order, Fonts, some of which have curious peculiarities, Masonry, and Early Christian Masonry. . . . Mr. Brash is a painstaking and accomplished student.

Academy.—Since Petrie gave to the public his (alas!) unfinished work on the Ecclesiastical Architecture of Ireland previous to the Anglo-Norman Invasion, the work which heads this article is the most important and valuable contribution to an interesting and almost unexplored branch of knowledge. . . . The volume does great credit to the enterprising publisher.

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The Irish Builder.

VOL. XVIII.—No. 406.

The Gas Question in Dublin.

SECOND ARTICLE.

THE gas supply of Dublin is admittedly bad and unquestionably dear; the word exorbitant is, however, more expressive of the truth. Passive protests and resistance on the part of ratepayers and consumers have hitherto availed little, and henceforth the Gas Company of Dublin must be fought through the public courts and Parliament. Whether there is a coal famine or not, the interests of the Gas Company are hedged around, and the consumer is perforce obliged to groan and suffer. There was an excuse for the dearness of gas in 1872-3, when the cost of coal was doubled or more than doubled in price; but none exists now. In London during the coal famine the Imperial and Chartered companies appealed to the commissioners, who sanctioned an increase in price.

It has been already seen how the Gas Company of Dublin failed to obtain power to increase the price of gas by an appeal to the Board of Trade. The coal famine plea did not apply to the Dublin Alliance, for its management was in every way defective. What the Board of Trade did not grant, the Parliament granted; but the concession was obtained by a "fluke." The threat of leaving the city in darkness by the company turning bankrupt, was a bold card to play, and succeeded for the nonce; but the same game cannot be played a second time.

Had we a Metropolitan Board of Works or a representative Corporation in Dublin, the Gas Company of this city would be the servants of the public instead of their masters and dictators. Monopoly has been kept down in London by the Corporation, the Vestries, and the Metropolitan Board of Works. In the session of 1874-5, three bills were promoted by the civic and the metropolitan boards,—the first to authorise these bodies to erect new gasworks, and supply gas in competition with the companies; the second, to compel the companies to sell their works at a stated sum fixed by the purchasers; the third, to enact that for every penny above 8s. 9d. per 1,000 cubic feet the companies should charge, a reduction of $\frac{1}{4}$ per cent. should be made in the rate of dividend to the shareholders. The two former bills were shortly withdrawn, and while the third was under the consideration of a special committee it was intimated by the Board of Trade that they would agree to the companies paying an increased dividend on the condition that they reduced the price of gas below 8s. 9d. This suggestion was approved by the committee, but, owing to the lateness of the session, the bill was dropped, but only to be re-introduced the next session. The action of the Corporation and Metropolitan Board of Works, backed by public opinion, however, had good results. In the last session of Parliament the Regu-

lation Bill was withdrawn, and then followed the passing of the Chartered and South Metropolitan acts, in which a sliding scale of charges was introduced, the initial price for the Chartered Company (which became amalgamated with the Imperial and Independent) being fixed at 8s. 9d., and the South Metropolitan at 8s. 6d. As matters stand at present, the dividends of these companies may rise as well as fall above or below the standard 10 per cent. inversely with any increase or decrease in the price of gas above or below the initial price. The action of municipal and local public bodies in London leads to the protection of the public interests, but here in Dublin the pseudo action of our municipal body ends in the support of private interests. It has been proved over and over again that 16-candle gas could be sold for 8s. 6d. per 1,000 feet, and 20-candle gas at 4s. 6d. or less per 1,000 feet.

The story of the crisis in the gas supply of Dublin has been well told by Mr. John M'Evoy—the bill promotions, regulations, deputations, real opposition and assumed opposition. The statement of the hon. secretary of the Gas Committee is a fair one, and it shows plainly that the Corporation and the Gas Company worked into one another's hands when the Company's bill was before Parliament. The bill, we agree, should have met with the most determined opposition when the Gas Company refused the terms offered them in Dublin; and here Mr. M'Evoy puts the question pertinently—"But it was not by citizens at their own expense the opposition should have been undertaken. That was the duty of the Corporation of Dublin. They appeared technically as opponents, with Mr. Norwood as counsel, really as supporters of the Company's bill, with Councillor Sir John Gray, M.P., the Lord Mayor, Mr. Brooks, M.P., as directors, and Alderman Redmond as a witness directing and sustaining the case of the Company against the citizens. Not but the Corporation had proper advice as to the course it was their duty to pursue." Mr. Fowles, the manager of the Corporation gas works, Glasgow, advised the Corporation against purchasing the Dublin gas works for the reason that he had never seen such a work of magnitude more unsuitable in its arrangements for the economical production of gas. In regard to the course to be taken with the Company's bill, Mr. Fowles writes:—"That the Company must get some relief from their present obligations is evident from a survey of their balance sheet just issued; but every care should be taken that this relief should be temporary only, and lasting no longer than two years at most, after which the conditions as to the supply and price should be the same as they are at present." The first of July, 1876, is a matter of the past, and there has been no return to 20-candle gas at 5s., or 16-candle at 4s.

The citizens of Dublin need not be told how wretchedly bad the illumination of Dublin is, both in streets and dwellings. For the defective lighting of the streets the Corporation is responsible through its slipshod supervision. In London the illuminating power of gas is constantly and carefully tested daily in different parts of the metropolis by chemists appointed by the Board of Works. Any falling off below the standard of 16-candle is punished by a fine on the offending company, which makes them careful not only to avoid the fine, but the public

exposure. There is seldom a trace of sulphuretted hydrogen in the gas, and the most effectual methods are adopted for purification. The fines inflicted for infringement of rules are deducted directly from the dividends of the shareholders. Gas of standard quality is supplied by the companies, but the local authorities determine the number of lamps and the kind of burner used. The burner has been a burning question in Dublin, and the citizens have fared badly in the dispute over this question. The burner proposed in the bill brought in by the Dublin Company was agreed on both sides to be the best for the consumers, but it is evident nothing can possibly be gained by the consumer by the use of the common burner, no additional light is obtained, and the advantage is lost of having the gas tested by the common measure of value. The Gas Company were wide awake to the suggestion of adopting Sugg's burner. The gas meters in Dublin need an overhauling, and more constant inspection on behalf of the public. The official inspectors in London generally perform their duties efficiently, and the meters used by household consumers are accurately examined. Bad light occasionally may be due to obstructions in the internal gas-pipes, which are often made very small by gasfitters; but the wretched light that is to be constantly seen in Dublin is not traceable to these causes, but to the nature of the supply and the impurity of the gas. In a word, the gas supply of Dublin is "dear and nasty."

A make-believe effort, we fear, is being now once more made by our Corporation to lead the citizens to hope that redress is near. The composition of our municipal council forbids us to attach much importance to the resolutions proposed in the City Hall on the head of Gas Reform. Whenever it is seen that the public are becoming restless and anxious in a matter in which it is the duty of the Corporation to move, notices of motion and resolutions crop up immediately in the City Hall, as unsubstantial as echoes and shadows.

The evidence of Dublin municipal representatives, given before the Parliamentary Committee of last session on Local Government in Ireland, affords testimony enough to convince honest men how utterly impossible it is to obtain a straightforward answer to a straightforward question from interested members of our Corporation. Every official and member of our Municipal Council must have been tolerably well posted up on the Gas Question, yet every one of those examined—from the Borough Engineer down to the youngest member of the civic body—betrayed an ignorance or assumed ignorance of the Gas Question which must have surprised their interrogators. The Borough Engineer knew nothing at all about gas; Mr. Norwood, the counsel of the Corporation for many years, forgot what the price of gas was, and the other members pretended an equal ignorance of the price of gas, or its cheapness or dearness compared with other cities.

Nice representatives these, who, instead of fighting the battle of their fellow-citizens and cheap gas, fought the battle of the Gas Company and dear gas. At every recurring municipal election there is a little show of public spirit and activity, which costs nothing more expensive than a great flow of talk. It answers its purpose, which is to throw duped and unsuspecting ratepayers off their guard.

Once the stock company, who play their part so ably for their own interests, are replaced, the old system of humbug, neglect, and jobbery once more reigns supreme.

In conclusion, for the present we can give no better advice to our citizens and consumers than to agitate the Gas Question by every means in their power and through every organization possible. It is patent as noon-day that the gas consumers of Dublin are paying an extortionate price for their gas, as was plainly proved in our first article and in the statement of Mr. John McEvoy. The organ and advocate of the gas companies has itself acknowledged that the price paid in Dublin is too much. If the formation of a competing company is not advisable, let a gas regulation bill be at once pushed forward, and, with or without the support of the Corporation, the Alliance Company will be made amenable to the public will. Had the Corporation of Dublin performed its duty to the citizens, the engagements entered into with the Alliance Company in 1871 would have long since been enforced; but representation in our city council means self representation, and gas reform a reduction of private income.

INSTITUTE OF BRITISH ARCHITECTS.

Mr. Charles Barry, president, delivered the inaugural address on the 6th inst. The attendance was good. In the introductory portion of his address the president expressed his deep sense of the duties and responsibilities of his new position, but he hoped to discharge them to the best of his ability. He said the ranks of the Institute had steadily increased during the past year. He gave some biographical sketches of recently-deceased members, which he had drawn up with the assistance of the secretaries and others. The president next touched upon the subject of archaeology, alluding to the successful exploration and researches undertaken by Professor Curtius in the plains of Olympia, and to the excavations of the Campo Vaccino at Rome. He then proceeded as follows:—

And now let me ask you to consider with me our future—the past is out of our power, but that which is to come may be influenced or even directed by ourselves. Stirring in the minds of us all have been thoughts, desires, schemes, as to how we may make the organisation of this Institute more effective and more generally available; and here I would venture to say that, in my opinion, the number of members who attend our evening meetings and take part in the discussions, although frequently taken as a test of our vitality and usefulness, is not the only or even the most important evidence in that respect. The real test, as I think, of the usefulness of a body like ours, is the respect paid to it by members of our own profession within, and, above all, the esteem in which it is held by the public outside its ranks. I would fain see more and increasing evidence that these are facts, and it is by our exertions to strengthen these two lines of thought and consequent action that I think all our efforts should be animated. I feel convinced that, if day by day these two feelings can be shown to increase and strengthen, we need have no anxiety as to our financial position, or as to the increased interest of our meetings and discussions. Let us then consider, so far as we may, what hindrances have existed or do exist to the above desired objects,—whether the hindrances are supplied by ourselves, and how far, therefore, they are in our power to lessen or to remove; whether they arise from the public want of confidence in us; or lastly, to any want of sufficient capacity on

the part of the public to appreciate us as we think we ought to be appreciated.

I think it will be found that there is much under each of these three considerations. Now, first as regards ourselves, we may be quite sure that unless we have real confidence in and respect for each other, we cannot blame the public if they have not. It is to the credit of this Institute that one of the chief objects of its original foundation was not alone to promote professional study, research, and talent, but to maintain and enforce professional honour; never let us forget that. It must be a subject of unfeigned satisfaction to those old enough to remember the infancy of the Institute to see how much has been done by its action and influence in this respect; but I appeal to the experience of all whether there is not much more to be done in the same direction. Are there not instances still to be found where by insincere criticism, or more unworthy means, architects have superseded a professional brother in the work which he had fondly deemed to be his own, and by means of which—if he could reckon on the friendly help and advice of his professional brethren when their duty made them his critics, or, if he could depend upon their praises for what might be good in his work; for their kindly suggestions how its imperfections might be removed, in place of their only noting (as we too frequently see) the defects of his design he might have been enabled to rise one more honourable step on the ladder which we all find it so hard to mount?

Are there no cases known to us, where, when public bodies (as they are only too prone to do) take a low view of the professional services which yet they feel are essential to them, and offer remuneration in total ignorance of the value of the services they require, or the life-long study and costly education necessary to make an efficient architect, the architect frequently feels that he is almost bound to submit to the hard terms laid down, because he knows that other members of his profession will take his place if he relinquishes it, and on the principle that half a loaf is better than no bread? And if this be so, how can we wonder at public bodies persisting in the pernicious and unfair action to which I have alluded, and continue to value our professional services far too meanly?

Again, if (as I fear) we are not yet permitted to hope that the present baleful system of architectural competition may be given up for some more rational and more just of attempting to discover rising talent, is it too much to expect that the professional rivals in each case shall remember that they are still professional brethren, and that as a point of honour they are bound to refrain from all artifices of drawing, misleading estimates, or from showy and inflated description which does not truly represent their design, or which may be calculated to mislead the very singular and frequently incompetent bodies who affect to act as judges?

The example recently set by the town of Leeds of choosing a skilled architect as the judge of designs sent in competition for their new municipal buildings, and proposing an unexceptionable list of architects, all well qualified for such a duty, in order that the competitors themselves might select the one to decide between them, seems to me to be the beginning of better things, and to be a course most likely to result in a just and satisfactory decision. Our good friend Mr. Cockerell, who has been chosen by the competitors, will, I feel sure, discharge his rather delicate duty with all the talent requisite for such a task, and with the most perfect impartiality. I hope the result in this instance will be so satisfactory to all parties that it may really be the commencement of a system.

Again, do we not also see, from time to time, cases in our courts of law where professional evidence is asked for, and too readily obtained from professional men, to discredit a professional brother,—evidence given (as we must frequently think), not with the simple desire to make evident the truth, but

with the spirit of an interested advocate, or to curry favour with special persons?

Now in all these cases, we, as a profession, have it in our power to do much if we will to diminish or abolish these scandals, abuses, and consequent hindrances to our efforts. In some few cases (I wish they were more) this Institute has been able by kindly advice or mediation to prevent differences of opinion between employer and architect, or between members of our body, from growing into disputes. Of course, this action can only be beneficial if both parties, while they honestly differ, are yet sincerely desirous to do what is right by one another; and it is further evident that if this were more universally the line taken by architects in their dealings with each other, and with their clients, courts of reference, or arbitrations of any sort, would be little needed, for the majority of differences would never arise.

While, therefore, I would advocate the utmost professional freedom of opinion, taste, and judgment, I would press the advantage of *personal brotherhood and unity*. We should differ broadly still from trade unions, to which we have sometimes been improperly compared, in which personal freedom of action is required to be sacrificed to some arbitrary rules, frequently those of the minority, and to rules which favour the worst and not the best men. With us, on the contrary, an unwritten and unenforced law (no less potent from being unenforced), such as I have ventured to shadow out, would be all-powerful with honourable minds, and would also effectually stamp all unworthy men. In the attempt to ensure this, I would gladly see all the members of this Institute continue the good efforts begun by its founders, and I rejoice to believe such efforts are still made among us. All good men wish to be led and represented by the best; and the better they are themselves the more they wish this. In believing that the men of our profession are good, I credit them with this wish; and they will thus naturally desire that by every possible means this, as the representative body of the profession, shall be supported in carrying out these principles. So only shall we, with increasing respect for each other, and perfect faith in each other, command respect and confidence from the public, among whom we live, and whom we desire loyally to serve.

Leaving now what I may term our internal abuses and grievances, let us consider whether the difficulties we often meet with arise from want of the public confidence in us. Now that there is a want of entire confidence of this sort is true, and I think it may be taken as arising from one or all of the following causes:—1st. A belief that the architect, as a rule, thinks more of the outward effect of his design than the uses for which the building is needed; 2nd. A want of credence in the accuracy of architects' estimates, and a tendency to rely rather on those of the tradesman, thus producing an indisposition to employ an architect at all, and to rely on what are called practical men, i.e., less educated men, and not artists at all; 3rd. A sort of half-ashamed and half-expressed belief that architects will so far forget all principles which should actuate honourable men as carelessly or even knowingly to increase the cost of their work in order to increase their professional emoluments therefrom.

Now, of course, there are architects and architects, the like in name but greatly different in fact; and we must, I fear, admit that, as to the two first reasons for want of confidence, there are illustrative instances to be found, though hardly any (if any at all) for the third reason; and the only way in which we can hope the public may be disabused of these in the main most erroneous ideas is to be able, in the future, to challenge and disprove the accusation that internal usefulness is really sacrificed to external effect by defying the accuser to find an instance in point in the work of an educated architect of recognised position in his profession, and to show that such unreality, when it shall exist, shall only be found in the works of mere

builders and pretenders to a professional position to which they have no title either by education or ability. With reference to the second cause I have suggested, when public bodies, or private clients, ask an architect to design and carry out a work of which they describe the extent, and mistakenly expect it to be executed for an insufficient sum, it should be at once declined, and the reason stated, instead of being undertaken, as it often is, with the knowledge that there must be finally a large extra cost, which it may or may not be possible to attribute to changes of view on the part of the employer. Thus, and thus only, I think, would public confidence in architects' estimates arise, or be strengthened. In this matter I consider the employer, whether public or private, chiefly to blame. He has no right to name a sum as the cost to be incurred, in an entirely arbitrary manner, inasmuch as, unless it be a hopelessly unreasonable one, the architect has strong temptation to indulge in a fond hope that, by some means or other, he may be able to meet his client's wishes,—a hope in such cases rarely, of course, realised.

I deem it quite unnecessary, within these walls, to say one word as to the third reason I have alluded to; but I think you will agree with me it sometimes exists, and therefore I felt bound to allude to it. When it is suggested it has only to be boldly challenged, and generally the accuser is happily ashamed of his own suspicion when plainly stated in terms intelligible to honest men.

(To be continued).

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

THE subject of "Franking" was remarked upon in a short article in last issue of the IRISH BUILDER. Perhaps it will not be out of place here to give a little more detailed information upon the subject in connection with one of our great public departments. It will be seen from what follows that the privilege was greatly abused in the past by officials of the post-office in Dublin who enjoyed it. By the 23rd and 24th George III., cap. 17, Irish, it was confined to the postmaster-general, the secretary, the surveyors, and the comptroller of the sorting or inland office. Several others, it appears, in the department, with the sanction of the secretary, usurped the privilege. The period alluded to was when Sir Edward Lees was secretary.

What we are about to state is on the authority of a letter or pamphlet, now very scarce, entitled "A Brief Review of the Irish Post-office from 1784 to 1831," addressed to Lord Melbourne, written by Mr. P. C. O'Neil, who, together with his brother, held appointments for many years in the post-office department of Dublin. Mr. O'Neil writes:—"The secretary perhaps more than all others abused this privilege. His friends, relations, and connections not only had their correspondence free, but through them had also that of their acquaintances. As an instance of his misuse of this licence, he franked a large package containing a shawl, &c., when in England, for a Mrs. Clarke, of Dublin, which was seized by the custom-house officer at the latter place, for duty. Sir Harcourt Lees, his brother, has been often heard to boast of the facility he had for his immense correspondence, extending throughout every part of the British Empire. This correspondence was forwarded, for him free to all parts, under the fraternal protection of his brother the secretary."

We read further of several other officers in the post-office usurping the "franking" privilege to a large extent for all kinds of correspondence and agencies. Among the number was a Mr. Joseph Ferguson, superintendent of mail coaches, and a Mr. Graves Chamney Swan, the receiver-general. The latter gentleman was an acting partner of the firm of Stuart and Swan, one of the most extensive agency concerns at the time in the United Kingdom. The evidence of this

gentleman will be found in the Parliamentary Commissioners of Revenue Inquiry in 1828, and it patently reveals his gross misuse of the privilege of "franking." It is stated that he was agent to different noblemen and gentlemen; that he managed a very extensive land agency, and kept accounts with numbers of people as banker, to whom he was not agent, the last-named business extending to all parts of the empire. We find that he was in the habit of covering with his own frank the correspondence of his agency business, and receiving free such letters as were connected with it; that a large proportion of his correspondence was above weight, and that his partner's (Mr. Henry Stuart's) letters went free, as also the correspondence of his (Mr. Stuart's) sons and daughters. These facts, it is stated, were well known to Sir Edward Lees, and yet were allowed.

Another form of the "franking" abuse was the licence assumed by several favourite clerks in the post-office when sent out as extra surveyors. Mr. O'Neil writes:—"In 1826, a Mr. Drought, some time an extra clerk in the secretary's office, was in Mullingar, as extra clerk in the secretary's office, and sent up a parcel of game, which he addressed to Mr. Thomas Lees (the secretary's brother), and franked it in his own name. I had long used my exertions to oppose this lawless insolence. I charged the bulky tribute with full rate of postage, which was £6. What thanks I received for having done so, after Mr. Thomas Lees' warning to act in this manner, will appear, to use the words of Cervantes, in the sequel." Well, the sequel proved that Mr. O'Neil and his brother, the president, incurred the enmity of the secretary for this act and others, by which they endeavoured to put an end to gross abuses, and every effort was made to thwart them and make the service too hot for them. Finally charges were trumped up against them, and the dismissal of the brothers O'Neil was effected by the secretary. Shortly afterwards, however, the removal of the secretary, Sir Edward Lees himself, took place by his being transferred to Edinburgh.

The Duke of Richmond's evidence before the Committee on the Reduction of Salaries in 1831, is worthy of reference as to the sort of management that existed in the Dublin office. From what transpired in the course of parliamentary enquiries between 1829-31, it was evident that the Government could no longer postpone making a radical change. Many looked upon Sir Edward Lees' removal as only another form of dismissal. In 1831, however, party feeling ran high in the matter; but though reform to some extent took place, abuses still existed for several years longer, and the "franking" system continued to be more or less abused by officials until the privilege was abolished.

While diving into the history and mysteries of the Dublin Post-office in the past, we came across many bits of information possessing historical interest apart from the subject of the postal system itself. An idea was at one time formed by the postal authorities of extending the old post-office from College-green to Suffolk-street, and for that purpose, in 1810, a purchase was made of four or five houses in the last-named street. The idea was not long conceived when it was abandoned, but the houses remained for many years not only non-productive but subject to considerable expense for rents, repairs, &c. Some people other than the Government were, during the whole of this time, receiving an income out of the non-productive houses. Firstly, in 1809, it appears that a sum of £2,263 10s. 6½d. was paid for the profit rent of part of the ground or intended site. In 1811, a sum of £1,755 for additional houses, making in all £4,018 10s. 6½d. These houses, until sold in 1820, cost a yearly rent of £225 10s., or amounting to £2,255 in ten years. There was £200 18s. 6d. the interest of the amount of purchase, making £2,455 18s. 6d., which added to the foregoing £4,018 10s. 6d. made a total of

£6,474 9s. of public money lost or squandered, independent of large sums expended for repairs, taxes, valuations, plans, &c.

Speaking of these houses between College-green and Suffolk-street reminds us of the later speculation of George Home, of Usher's-quay and Royal Arcade memory. The pretty entry or passage, with its rows of bazaars between College-green and Suffolk-street was for a while one of the sights of the city, but in 1837, nearly forty years since, it was burnt down one night. The story of the "Queen Anne" farthing in connection with Home's project still lives in the minds of many of our poor people, but a popular fallacy has often a longer life than a popular fact or a once popular man.

In the first and only published volume of a work entitled "The Recollections of Skeffington Gibbon from 1796 to 1829," printed in the latter-named year, by Joseph Blundell, 187 Great Britain-street, there are given some particulars of the birth and parentage of Owenson the actor, the father of the celebrated Lady Morgan, which are worth noticing. It is stated in this work he "was born in the rustic village of Collooney, within a few miles of the town of Boyle," and the writer goes on to describe the romantic features of the surrounding district. He continues:—"Mr. Owenson was a native of this wild and romantic district, and was born in that state of indigence familiar to an Irish peasant, and in which I was nurtured myself—though I am vain enough to think if I was properly educated in my early days I might, from my perseverance and assiduity, be an ornament to society in my more mature age. But to return to the respected Owenson, to whose memory the community is much indebted for the superior education (in his humble circumstances) he bestowed on both of his amiable and patriotic daughters, and particularly the accomplished and high-minded Lady Morgan, of Kildare-street (the wife of that eminent and esteemed physician Sir Charles Morgan), who from her literary talents is an ornament to her country. In his boyhood Owenson began to show symptoms of that genius, which he displayed afterwards in his rude characters on the boards of Crow-street Theatre. From the indigence of his parents it could not be expected that he could receive a liberal education; and at this time there was no biblical or old-maiden Sunday schools in this country; yet to go to Munster, as many others did, who came home priests or surveyors, such a thought never entered his mind; notwithstanding which, he was a perfect master of English language. As to the mother tongue (the Irish as it is vulgarly called), few could excel him, the Irish being spoken more correctly in the County Sligo than in any other part of this kingdom. In his youthful days Mr. Owenson was taken as a domestic into the house of a Mr. Irwin, the father (I believe) of Commodore Irwin, near Sligo, who were the first to bring him to Dublin, in which service he lived some years. He left that family to better himself (who could blame him?), and went as own-man to the late Lord Shannon. How long he retained this situation I cannot say, but I believe it was his last service, as he got an engagement at Crow-street Theatre, attached to which establishment he died; he was a great favourite with the public. His eldest daughter, Miss Owenson, was governess to Miss Fetherston, of Bracklin, in the County of Westmeath, when she wrote 'The Wild Irish Girl,' which is considered her best production; and the reason is obvious, because of the excellent and native ideas of her lamented parent, who often gave her his brilliant aid, previous to his demise, while writing this rare and much sought-for work. However, let not the reader imagine that I am going to visit the memory of Mr. Owenson with vituperation or contempt for being the legitimate heir of indigence, or for earning his bread as an humble domestic. Far from it. Are we not, from the highest to the lowest, obliged to earn our bread in one capacity or another?" &c. I forget as

I write whether Mr. W. J. Fitzpatrick, in his genial life of Lady Morgan, has noticed the above passage, or if it came under his attention while seeking particulars for the life of his subject. It is now several years since the writer of this note came across some traces of the early days of Miss Owenson in our northern suburbs. A hint thrown out to the biographer of Lady Morgan was availed of, and I believe it led to some materials. As I write, a paragraph falls under my eyes in the *Anthologia* of May, 1793. In the "Theatrical Register" of that magazine, under the date of 26th, I see "Just in Time" and "Midas" was performed in Crow-street Theatre for the benefit of Mr. Owenson. The following remarks occur:—"Seldom has the theatre witnessed such an overflow as on this night—indeed it was a just tribute to a man of irreproachable character both in public and private life." In the same year, but previous, the following critique also appears in the above magazine in relation to Owenson's acting:—"The acknowledged excellence of our deserving countryman, Owenson, in Irish characters is too well known to be enlarged on; his Foigard was given in his very best manner."

When the later history of the Irish Stage comes to be written, we hope the father of Lady Morgan will receive his fair meed of praise, both in his character of an actor and a gentleman. H.

A NEW SYSTEM OF PLASTERING.

OUR contemporary the *Builder*, in its last issue, gives some particulars of what is termed "Hitchin's Rapid System of Plastering." By this system the lathing and two coats of plastering with lime and hair give place to large slabs fixed on the joists, which form the body of the ceiling at once. The edges of these slabs are bevelled reverse ways and fit into each other, so that the stopping cannot be shaken out. The face of the slabs is made rough, and the whole receives a thin finishing coat of cement or stucco, which effectually conceals the joints and produces a ceiling of good appearance.

The advantages claimed for this method are that no time is lost in waiting for drying, and the annoyance of dirt and rubbish caused by mixing and using lime and hair is entirely avoided.

The manufacture of the slabs takes place as follows—A sufficient quantity of plaster and fibre are mixed with glue water; half of this while in a plastic state is spread evenly upon a plate-glass bench, the edges of which are raised $\frac{3}{4}$ in. bevelled. A sheet of strong open canvas is then stretched tight across and wrapped round two laths which are embedded in two opposite edges of the slab. The object of having these laths is to tighten the canvas and stiffen the edges of the slabs in their span from joist to joist. The remaining portion of the plaster and fibre is spread evenly upon the canvas, which then remains firmly imbedded through the centre of the slab. A bass broom is passed over the face of the slab for forming a "key" for a finishing coat. When sufficiently dry the slabs are removed from the bench and exposed to the air to dry. These slabs are made 2 ft. 6 in. wide and of sufficient length to reach across four joists, and are secured to the joists by driving $1\frac{1}{2}$ in. zinc nails through the laths before mentioned, and about 4 in. apart along wherever the joists come. The joints are then roughly stopped with cement, and the whole receives a thin "setting" or finishing coat of cement or "stucco," as in the ordinary way.

Viewed at first sight, this new system of plastering seems to possess some advantages, but we question much the advisability of its adoption in these "Jerry" building and speculating times of scamped workmanship. Good terra-cotta, concrete and plaster moulding and casting are produced, and are desirable in many ways, but the rough-spun methods by which scamping builders travesty every new invention or process are most un-

desirable. Concrete and cement in the hands of "Jerry" builders are becoming nuisances, from the manner in which they are manipulated. We have in their hands imitation stone lintels and centres and other work, little better than rubbish, produced on the site of their building operations. We are in favour of shorter methods—if they are good methods—of performing many building operations, but we dread work by wholesale "cut and dry" in the hands of unprincipled builders.

EMPLOYERS AND WORKMEN—ENGLAND AND SCOTLAND.

DISPUTES in the building trades still continue over England and Scotland. At Liverpool the Operative Plumbers' Association have given six months' notice to their employers of a new code of bye-laws to come into operation on the 1st of May next. They propose that from 1st March till 1st of November the hours of labour be 50 per week, at the rate of 9d. per hour—this is an advance of $1\frac{1}{4}$ d. per hour; from 1st of November till 1st of March the hours per week are to be 47 $\frac{1}{2}$, at the rate of 9 $\frac{1}{2}$ d., or an advance of 1d. per hour. Quarter time is to commence at 9 o'clock instead of 8:30 a.m. In the first term mentioned, from March till November, if the demands be granted to the men there would be a reduction of five hours per week.

At Darlington the Plumbers' Union has also drawn up a code of working rules. The employers have refused to sign it, so a strike has taken place. The code includes among others a rate of wages not less than 7 $\frac{1}{2}$ d. per hour, with all the necessary tools found by the masters; the hours to be 53 per week. The rules are nine in number: those objected to by the employers as arbitrary and exacting are the last clauses of rules 1 and 2, the demand of train fare in rule 4 if the men do not come home, the limitation of apprentices in rule 6, and the exclusion of non-society men in rule 7.

At Burton-on-Trent the plasterers struck work on the 30th ult. for an advance of wages to 9d. per hour, which their employers have refused.

At Glasgow the master slaters have unanimously agreed to concede the advance of $1\frac{1}{4}$ d. per hour asked by the men, but they stipulate that the pay days shall still remain fortnightly. The men demanded weekly payments. In our opinion, weekly payments ought to be the rule everywhere.

PUBLIC HEALTH IN DUBLIN.

WITH a "Sanitary Commissioner" in our midst revealing a good deal adverse to the Corporation, and a Sanitary Association "lending the stranger a hand," we consider it only fair that the Public Health Committee should get full publicity to their returns. The following is the monthly return of the sanitary operations for October, 1876:—

Sewers and house drains constructed, enforced, 13; ditto, repaired and cleansed, ditto, 64; privies and water-closets constructed, ditto, 25; ditto, repaired, ditto, 110; ashpits constructed, ditto, 22; privies and ashpits cleansed, ditto, 749; dwellings repaired and cleansed, ditto, 807; dwellings condemned and closed, being unfit for human habitation, 10; dwellings reported to the city engineer as being dangerous, 13; cellar dwellings condemned and closed, 4; yards and external premises cleansed, enforced, 237; lanes and alleys cleansed by private parties, ditto, 26; accumulations of manure removed, 81; swine removed from dwellings, enforced, 2; other animals removed from dwellings, 2; swine removed from yards where kept offensively, ditto, 63; miscellaneous nuisances abated, 57; inspections of tenement houses, 4,312; ditto tenement rooms, 9,695; ditto nightly lodging houses, 253; ditto bakeries, 126; ditto slaughter-houses, 204; ditto dairy yards, 163; certificates for destitution to entitle to gratuitous interment, 15; water supplied to tenement houses (enforced), 5; sanitary defects discovered, 1,977; sanitary defects remedied, 1,954; infected dwellings inspected and cleansed (enforced), 68; ditto chemically disinfected (enforced), 60; reports from medical sanitary officers, 57; patients removed by hospital cabs, 6; removals

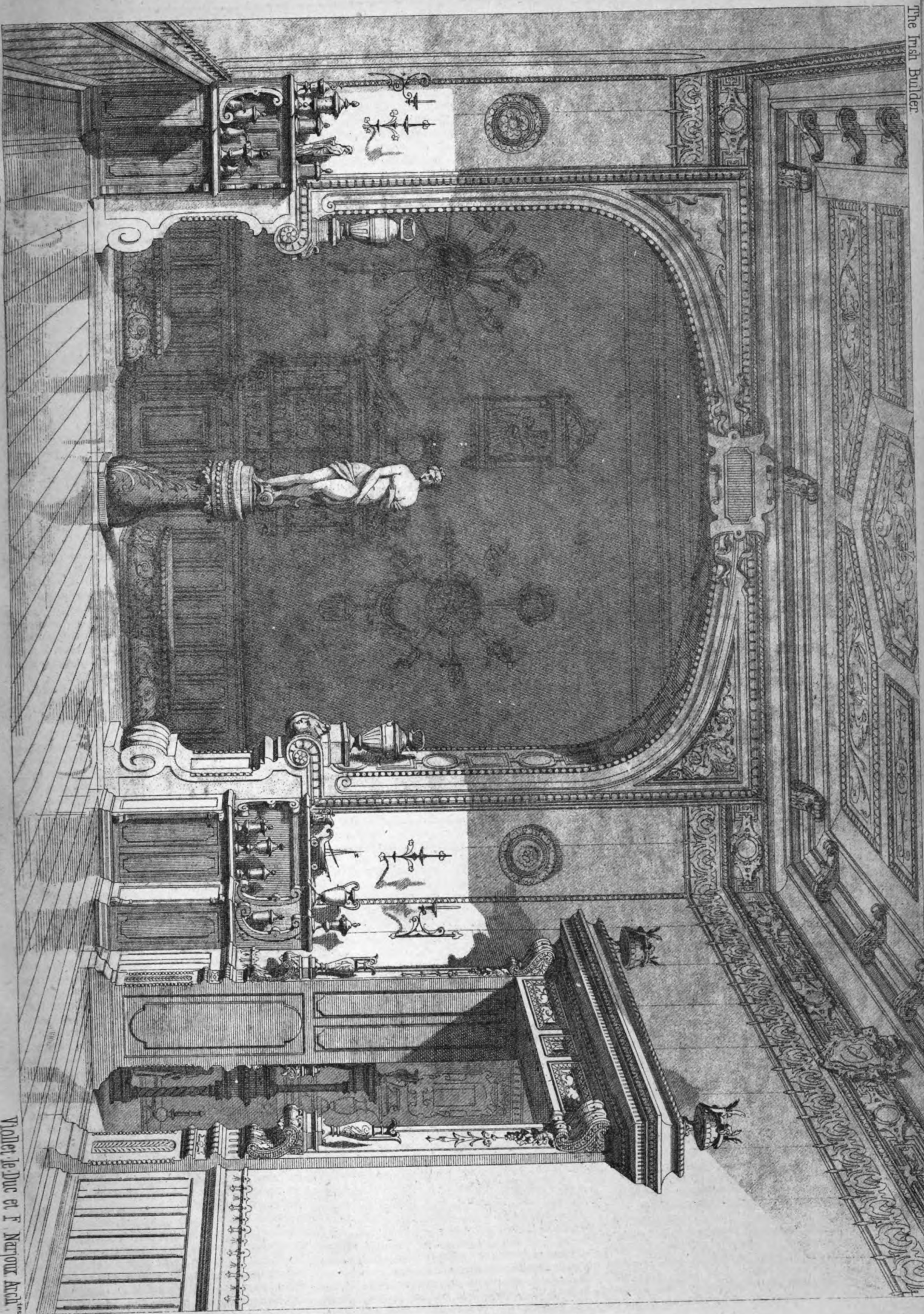
for disinfection by vans, 34; detections of unsound meat, 20; ditto, fruit, 1; ditto, adulterated milk, 13; ditto, coffee, 1; ditto, mustard, 1. Samples collected for analysis, 220; articles found adulterated on analysis, 15. Confiscations of diseased meat (No. 43); weight, 12 tons 4 cwt. 3 lbs.; fruit, 1 qr. Convictions for possession or sale of unsound meat, 1; ditto, eggs, 1. Convictions for sale or possession of adulterated milk, 6; ditto, mustard, 1; ditto, dairy yard, owner of filthy premises, 1. Convictions for ordinary sanitary offences, 347; notices served, 816; summonses served, 357. Total number of convictions, 357. Disinfecting chamber used by persons, 23; number of articles disinfected, 242; number of registered nightly lodgings, 108; ditto, slaughter houses, 92; ditto, in use, 74; total number of cattle returned as slaughtered, 5,974. Admissions to Fever Hospitals and deaths from zymotics:—Admissions—October, 1876, 53; deaths, 29. Corresponding month last year—Admissions, 44; deaths, 80.

We will only add here that no one can dispute many of the terrible facts stated in the *Sanitary Record*. Over and over again for years a large number of them have been made known. There is no necessity at all for mis-statements or exaggerations (which may be accidental) to render the sanitary picture of this city darker than it is, for in sooth it is in reality dark enough. Exaggerations only defeat the object which we should all have in view. Strong language may at times be necessary, and at present it is necessary, but "the truth, the whole truth, and nothing but the truth" about the sanitary condition of Dublin is all that is needed just now to rouse public attention, and to expedite reform.

A VALUABLE IRISH LIBRARY.

ON Wednesday, the 22nd inst., a valuable native library will be dispersed far and wide. Its collection has been the labour of love of a lifetime on the part of its owner, Dr. Thomas Willis, senior, of this city, a professional gentleman of literary tastes, to whom many of our journalists, writers, and others in this country have been often indebted for the useful references and personal information it was in his power to afford, and which he willingly did afford whenever solicited. As Dr. Willis still lives in our midst, the stranger may ask—Why is he parting with what has cost him so much labour and outlay, and at the same time contributed so much to his pleasure? The concluding paragraph of the preface to the catalogue explains the reasons thus:—"Physical inability, consequent in old age, and a defect of sight, which makes the effort to read a work of labour, oblige the owner to dispose of a library the collection of which was the agreeable occupation of such leisure time as the duties of his profession permitted, and he may add that to its selection he devoted all the literary taste and judgment he possessed."

Irish history, antiquities, and biography are well represented in Dr. Willis's library, and among the very numerous collection of tracts and pamphlets there are many the rarity of which is unquestionable, and the value not easily estimated. Apart from the great historic and political value of a large portion of the library, there are many miscellaneous works and scarce publications which must command attention, illustrative of the past social condition of the people of this country—habits, manners, pastimes, hopes, fears, projects, trades, manufactures, legislation, life and living, and all else that constitutes the outer and inner life of a nation, its inhabitants and institutions, extending over two or three centuries. The antiquary, archaeologist, architect, historian, biographer and topographer will find works worth securing in the collection under notice. Valuable maps of Irish cities and counties are not often to be procured, and here we have a large number, with engravings of the portraits of celebrated Irishmen and illustrations of scenery, with plans and views of public buildings, several of which have long disappeared. The poetry of Ireland, as well as the history and biography, is well represented.



THE LIBRARY
OF THE
UNIVERSITY OF CALIFORNIA

We trust that the majority of the more valuable books—several of them really unique—will be secured for libraries in this country, or for public collections in our midst, if possible. No doubt there will be a number of English trade purchasers, who will bid high for some works or buy the lot, for they know the field or market through which they may afterwards be distributed singly or in selections, as well if not better than their brothers in trade on this side of the channel.

With some exceptions, we will regret the dispersion of the library of Dr. Willis, even though a private one, for it is "racy of the soil," and such another varied collection may never be brought together again under one roof in this country. It is for others to estimate the pecuniary value of the collection, but all we will say in conclusion is that, from our own point of view, its literary and historical value is great.

THE CORPORATION AND THE GAS QUESTION.

At a meeting of the Corporation held on Friday last, the Gas Question came up for discussion. We subjoin some correspondence of interest, and the report of "the committee of the whole house":—

The Town Clerk read the following letter from the Alliance and Consumers' Gas Company, in reply to the resolution of the Council of the 3rd November:—

SIR,—I am directed to acknowledge the receipt of your letter of 4th inst., and in reply to state that my directors have given the subject their most careful consideration, and entered into a most minute calculation of the present cost of wages and materials, and, seeing no prospect of a reduction, notwithstanding the unprecedented stagnation of trade, regret that they are not in a position to meet the views of the Corporation, and alter the rates quoted in their tender of the 31st May last. The directors, however, would be willing, if so required by the Corporation, to submit a tender for the entire public lighting service, including lamplighters' wages, maintenance, &c., and they undertake that such tender will not exceed the average cost per lamp per annum payable by the local authorities of London. I am desired again to call the attention of the Corporation to the fact that, should they desire to take advantage of the 14th section of the Company's Act, and thereby authorise the directors to alter the standard to 14 candles (a standard of 2 candles in excess of three of the London gas companies), in that case the price will be reduced to 3s. 7d. per 1,000 cubic feet. I have just learned that the Corporation of Cork are entering into a contract for 14-candle gas, at 4s. 9d. per 1,000 cubic feet, exclusive of all maintenance, &c., this price being the same to private consumers within the city. W. F. COTTON.

A letter was read from Mr. John M'Evoy, Hon. Sec. of the Citizens' Gas Committee, in which he says:—

I am directed by the Citizens' Gas Committee to convey the satisfaction with which they view the recent action of the Corporation in calling for a reduction in the price of gas. The proposed reduction on the 1st January to 4s. 6d., and on the 1st July to 4s. 3d., with what the committee would suggest a further reduction on the 1st January, 1878, to 4s., will but give effect to the terms and conditions upon which, ten years ago, a monopoly in the gas trade of Dublin and suburbs was conferred upon the Alliance Gas Company. The act of 1866, under which that company and its monopoly were established, put an end to the previously existing competing companies, on the condition that the price of 16-candle gas should not exceed 4s. 6d. per 1,000 feet. In 1871, when the company went in for new Parliamentary powers, they recognised the fact that, with the improvements in the manufacture of gas, and its consequent more economical production, 4s. 6d. had become excessive as a permanent price, and accordingly they consented that provisions should be made for the gradual reduction of the price of the 20-candle gas, then submitted for the 16-candle gas, down to 1877, when 5s. was to be the permanent price, equal to 4s. for 16-candle, tested by the same burner. The Dublin Alliance Company is the one solitary instance of a gas company that obtained, under very extraordinary circumstances indeed, relief from the statutory engagements apparently in perpetuity. With the company above, a temporary difficulty has been converted

into a perpetual advantage. The committee are unwilling to anticipate a refusal by the company of the terms offered them; but should that refusal be given, the Towns Improvement Act of 1847 provides a mode for enabling the Corporation next year to consult the ratepayers, and, when armed with their sanction, appealing to Parliament for a just settlement of the price of gas in Dublin. This course the Citizens' Committee trust will be taken without hesitation, should it unfortunately be necessary, and in the meantime that any contract with the company for public lighting will be made for periods not too long to embarrass next year's action of the Corporation and ratepayers in this matter.

The "committee of the whole house," which met on the previous day, and had before them the letter of the Gas Company, adopted the following resolution:—

That inasmuch as the letter of the Gas Company holds out no prospect of the proposals of the Corporation being acceded to, and Mr. Fitzgibbon's opinion shows that no means exist under the existing acts for enforcing any reduction of price, the council be recommended to undertake to promote an act in the ensuing session, provided the expenses thereof be subscribed or properly guaranteed between this and the 17th inst., to the extent of £2,000. That a select committee be appointed in the meantime to draft a bill to amend the act of '74, so as to reduce the cost of gas of the quality now supplied in Dublin to what it would be if that act had not passed. That the council adjourn to Thursday next, for the purpose of finally deciding whether or not it will promote such an act. That the directors of the company be informed that, while the council as representatives of the citizens consider it their imperative duty to identify their interests with those of the general consumers of the city, they are most anxious to avoid all disputes, and come to an amicable arrangement, which, while protecting the interests of the public, will also pay due regard to those of the company.

On Tuesday a conference took place between the committee and the directors of the Gas Company. It resulted in the company offering to take the contract for ten years for public lighting at 4s. 2d. per 1,000 feet, and 8s. per lamp for repairs and maintenance; the rate to private consumers to be afterwards considered. These terms would not be acceded to.

We will not anticipate the result of tomorrow's council meeting, but the wheels within wheels that we have so often witnessed revolving forbids us to hope that the Corporation will fight an uncompromising battle in the interests of the citizens.

INSTITUTE OF IRISH ARCHITECTS.

The session 1876-77 of the Royal Institute of the Architects of Ireland will be opened on tomorrow evening, at 212 Great Brunswick-street. The report of council for past session will be presented, and the officers for ensuing year elected.

The following gentleman will, on the recommendation of Messrs. G. C. Henderson (hon. sec.), J. Rawson Carroll, F.R.I.B.A., and J. J. O'Callaghan, Fellows, be submitted for ballot as Fellow, viz., Mr. Albert Edward Murray, 37 Dawson-street.

MANCHESTER AND BIRMINGHAM ARCHITECTURAL ASSOCIATIONS.

The Manchester association opened its second winter session on the 31st ult. During the evening Mr. T. H. Oldham, the president, delivered a brief address, stating that the association was formed for the benefit principally of architectural pupils, the members now numbering from sixty to seventy. The prize offered by the association for elementary designs, the umpire, Mr. Worthington (the president of the Manchester Society of Architects), has this year awarded to Mr. H. Gribble, a pupil with Mr. Davies Colley, of Manchester.

The opening meeting of the third session of the Birmingham Branch of the Architectural Association was held on the 31st ult., at the rooms, Bennet's-hill, in that town. There was a large attendance. The chair

was occupied by Mr. A. Freeman Smith, in the absence of the president (Mr. Yeoville Thomason). After the reports of various classes had been read and adopted, the chairman delivered an address. A large number of drawings, including the work of the London members, were exhibited on the walls of the room.

THE ROYAL IRISH ACADEMY.

A GENERAL meeting of the Academy was held on Monday evening. There was a very large attendance.

The Very Rev. Dean REEVES, V.P., in the chair.

The following were elected as members—Lord Leitrim; M. R. Dallway, M.P.; and Rev. H. W. White.

An interesting paper by the Rev. D. H. Haig was read by the secretary. It was entitled "A Comparison of the most Ancient Inscribed Monuments of Britain and Ireland." R. S. Ball, LL.D., read a paper on "Researches in Physical Astronomy. (Part 1., On the Precession and Mutation of the Earth and Planets)."

ROYAL GEOLOGICAL SOCIETY OF IRELAND.

A MEETING of this society was held on Tuesday evening, 7th inst., in the Lecture Theatre of the Royal Dublin Society,

Mr. B. B. STONEY, C.E., in the chair.

A paper on "The Antiquity of the Irish Aqueous Drift" was read by Mr. G. H. Kinahan, M.R.I.A.

A discussion followed, in the course of which the Rev. Dr. Haughton, F.T.C.D., mentioned that when shafts were sunk at each side of the River Liffey, in connection with the project of a grand trunk connecting railway, a human skull was found embedded under nineteen feet of estuarine deposit on the south side of the Liffey, which was, in his opinion, strictly contemporaneous with the gravel bed it was found in, and which had so little mark of antiquity that it might have been the skull of one of the Danes running away from the battle of Clontarf. This showed, to his mind, that geologists were too much given to exaggerating the antiquity of estuarine deposits.

Mr. C. R. C. Tichborne, F.C.S., read an interesting paper on the occurrence of magnetic iron ore at Kilbride, County Wicklow, on the property of Mr. W. R. O'Byrne, M.P., with the twofold object of recording a fact of which there was no notice in the maps of the geological survey, and of carefully fostering any possible addition to the mineral resources of Ireland. He described the ore as forming a vein certainly two miles, and, according to indications, three miles long, with a width varying to about six feet in some parts, and a supply reported to be very extensive. Specimens of the surface ore, which he submitted for examination, were a loose and friable sand, more or less spongy but perfectly free from organic remains. As the vein was pursued in a more vertical direction it became more compact, until a dense ore with a specific gravity of 4.37 was arrived at. In the specimens silica, which in large quantities made magnetic ore useless for smelting, was extremely low. He made some interesting experiments with the view of showing that this vein of magnetic oxide was originally produced by the action of water. Though he considered it desirable to confine himself strictly to the chemical and scientific view of the subject, it was not for a moment to be supposed that he did not think it, in a commercial aspect, feasible to work the vein.

Dr. Emerson Reynolds expressed his surprise that so important a deposit had been overlooked in the geological survey.

Rev. Dr. Haughton said it was plain from the analysis, that Mr. Tichborne had not only come upon a large deposit of ore, but one which was exceedingly free from phosphorus, sulphur, and all injurious matters.

NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.*

In undertaking the work of the management and reformation of the Dublin Stage, Sheridan commenced a difficult task. For long years a system of disorder and irregularity reigned; the stage was often degraded, and was the scene of motley exhibitions and performances that should not have taken place in connection with the legitimate drama. There was no lack of talent, no scarcity of good actors; for, as has been already noticed, an array of talent was put forward on the boards of Dublin theatres equal to any to be witnessed elsewhere. Indeed with all the drawbacks in connection with the early and later history of the stage in this country, the Dublin theatres have acted as the training schools for actors and actresses, who, during their later career, won a European fame. This city for a long course of years—from the days of Dogget, in fact—supplied the London stage with many of its best performers in various fields of the dramatic art. Throughout the eighteenth century, and far into the present one, an actor or actress who made a successful *début*, sustained by subsequent performances, was sure to be welcomed in London. Personal neglect, however, and excesses that need not be described cut short the career of many a promising native actor, who might have made a successful headway to the front ranks of his profession. The constant rivalries existing and nourished on the part of opposing companies contributed much to the injury of the stage in Dublin.

Before Sheridan's time, although Dublin could boast of not a few celebrated actors, their salaries were wretchedly low. The non-payment of salaries was a fruitful source of disorders. With two or three theatres contending often for the public patronage that was generally but sufficient for one, the proceeds accruing, save in exceptional runs, did not pay the expenses. When money was made in good seasons it was recklessly expended by the management in preparing for the next; each theatre striving to checkmate the advance of the other. When salaries were so often left unpaid or only partially paid, actors grew careless of attending rehearsals. They naturally had no love for their work, and indifference grew apace. Open breaches often occurred between managers and performers, and ended in disgraceful actions. We have it stated that previous to Sheridan's time, Isaac Sparks, an actor of acknowledged merit and a popular favourite, had but twelve shillings per week; Mr. Dyer, another fair actor, eight shillings; and Mr. Elrington one guinea. Small as these and other salaries paid to actors were it often happened that they only received half the amount for several weeks. Hitchcock, in his "Review," cites an instance on unquestionable authority illustrative of the low state of finances in the Dublin theatre on one occasion:—"So reduced were their finances and exhausted their credit, that the acting managers, as they were called, were once obliged to repair to the theatre on the evening of a play dinnerless. The first shilling that came into the house they dispatched for a loin of mutton, the second for bread, the third for liquor, and so on till they satisfied the calls of nature, when they prepared for the business of the night." There is only too much reason for believing that the picture above given was nowise exceptional, and that many actors played before an admiring audience with sad hearts and empty stomachs while bowing to the plaudits that greeted their performances.

With Sheridan came a better time for actors, and a certainty of payment at the end of the week. He commenced by raising the salaries of deserving performers, and establishing a fund for the regular discharge of salaries and tradesmen's bills. This line of action he continued to carry out as long as he was connected with the management of the Dublin stage. Sheridan was always prompt and exact in his orders, and would have them obeyed. We

* See ante.

hear before his time of our stage being long under the direction of seven managers nicknamed by the town "the Seven Wise Masters." Sheridan constantly attended rehearsals, and everything was gone through with the same precision as if it was a night performance. Although he occasionally enforced forfeits from performers who did not attend rehearsals, still, if gentle admonition on his part failed to convince actors of their neglect, rather than persist in exactions, he parted with the performer who would not amend his ways. Nearly every writer on the stage concurs in awarding praise to Sheridan in his conduct of theatrical matters, and his considerate treatment to actors who performed their duties. Under his management we read that—"The minutiae of the stage was also diligently attended to. His decorations were truly elegant, and his plays were dressed with characteristic propriety. Indeed, he has frequently been blamed for launching into expenses which the profits of the performances were unable to repay. Upon the whole, we may with confidence assert that during Mr. Sheridan's management plays were conducted in a style equal in most respects to any the British stage ever produced. How meritorious, then, was the man who raised the Irish theatre to such eminence!"

Sheridan's abilities as an actor have been variously estimated by his contemporaries, but the preponderating weight of opinion is largely in his favour. Dr. Johnson, to be sure, professed a great contempt for Sheridan, but the pages of the garrulous Boswell prove often too much and too little, and display the animus of the noted lexicographer. Sheridan himself was an eminent lexicographer, as his "Dictionary of the English Language," published towards the close of his career, proved. There is reason for believing that Johnson was somewhat jealous of Sheridan and his educational works—"I had no high opinion of Sheridan as an actor"; and it is not to be wondered he had a less opinion of his merits as a brother lexicographer. The Irishman attempted and succeeded in reforming the Irish Stage, and his effort to establish a plain and permanent standard of pronunciation was a worthy one, though it failed to replace the standard established by Johnson. Sheridan's Dictionary is still worthy of perusal by Irishmen speaking the English language, and in his introduction to that work English students and scholars will learn much that they cannot or ought not to ignore.

It is with Sheridan, however, as an actor and manager we have to do here, and not as a lexicographer or oratorical lecturer, so we shall cite the opinions of those who lived in his day. C. Dibdin, who wrote a voluminous history of the Stage, speaks of Sheridan as "an excellent actor, a man of strict honour, and a perfect gentleman, who, during a life of great credit and public utility, managed one of the theatres in Dublin, for the better purpose of conducting that kind of undertaking wrote one dramatic piece and altered three plays, the productions of other authors." Davies, the author of the "Life of Garrick" and "Dramatic Miscellanies," says: "Neither in person nor voice had nature been very kind to Mr. Sheridan; but his judgment, his learning, and close application to study, compensated in some degree for the want of external advantages. His manner, though certainly not very pleasing, was supposed to be his own, and not borrowed from an imitation of other actors. He had besides the advantage of an excellent character in private life." Dr. Parr writes of Sheridan that "he for many years presided over that theatre at Dublin and at Drury-lane; he in public estimation stood next to David Garrick." The doctor then goes on to speak of Sheridan's literary abilities, and of his dignified ease, firmness in habits, and principles of unsullied integrity. Chetwood, who wrote a "General History of the Stage," and who knew Sheridan and many other actors, Irish and English, well, writes:—"To this gentleman we owe the decency that has been long wanting on the Hibernian Stage—a difficulty no one

person could have surmounted but himself; and though merit does not always meet its proper reward, yet the seeds of flowers and roots he had sown and planted in this theatrical garden flourish sweet and amiable, and, like a master in the art, reward follows his pains and judgment in culture." Macklin, his great dramatic countryman, it must be remarked, speaks very disparagingly of Sheridan, and somewhat echoes the sentiments of Dr. Johnson. He speaks of "poor Sherry" as "acting mad, haranguing mad, teaching mad, reading mad, and managing mad." These were great untruths, except in one sense; all great innovators and reformers in every field have been greeted with "mad" epithets. They are mad so long as they are unsuccessful; but when they triumph, despite great obstacles, they are no longer mad, but heroes.

Success in the eyes of the vulgar is everything; to merit success, and not to attain it, nothing. Sheridan did merit success, and obtained it, too, in his lifetime; and the whole of his cumulative misfortunes and failures heaped pile upon pile, no matter what way they may be viewed or measured, detract nothing from the sum of his brilliant abilities. There were dramatic giants in his day, and Titans in literature too, but Sheridan was not dwarfed in their intellectual presence. Nature might be niggard in her favours to him in respect to voice and person, but he cultivated and improved the former like Demosthenes, and he triumphed over wants in the latter, like Curran, by the force of genius and character. Truly, as Churchill sings—

"But, spite of all defects, his glories rise,
And art by judgment formed with nature vies.
Where he fails short, 'tis nature's fault alone;
Where he succeeds, the merit 's all his own!"

DECORATIVE ART AND ART WORKMANSHIP.*

(Concluded from page 317.)

AGAIN, with regard to pottery, there never was a time, thanks to the South Kensington authorities, when greater facilities were afforded for the study and improvement of ceramic art than at the present. But what has been the result? There has been a quasi-revival of majolica, it is true, and some technical skill has been acquired in its production, but instead of imitating the character of old designs in free treatment of form and noble qualities of colour, the modern majolica painter is bent on producing pretty pictures on his plates, and the modeller on making every cup of a tea-set the precise counterpart of the rest, while the china-merchant himself is not satisfied until his dinner service looks as smug and shiny as if it had been finished by a coach painter.

As for metal work, the difficulty of getting even a skilled workman to execute with his hammer and pliers that which every village blacksmith could do a hundred years ago is extraordinary. The work of certain firms is, of course, an exception to the rule, but speaking generally I find that the principal aim of the British metal worker is to make both sides of every ornamental feature, and of every portion of every ornamental feature, precisely alike. That is what he calls good work.

Now I have lately spent some time in examining the fifth exhibition of "Beaux Arts Appliqués," at the Palais de l'Industrie in Paris, and though I do not consider the specimens of modern cabinet work exhibited there equal to the best of ours in point of design, I must say that, taking their specimens of art manufacture all round, I saw evidence of greater skill and greater taste there than we can secure in this country.

I am not speaking of their bronzes and articles of *orfèvrerie* in the design of which the human figure is largely introduced, because we know that the authors of such work, for generations past, have received a very

* By Mr. C. L. Eastlake. Read on 17th ult., at meeting of Social Science Congress, Liverpool.

different training from those who follow similar occupations in England. Skill of draughtsmanship is not necessarily accompanied by good taste in design, and there is a certain meretricious quality about these French inventions which I, for one, should be sorry to see replacing, with all its cleverness, the more sober and modest qualities of our English school. Apart from this consideration, however, I must say that in such matters as the design and execution of wrought and *repoussé* metal work for domestic purposes, and especially in the decoration of ceramic ware, we are far behind the French, whose reproductions of ancient *quincaille*, of Italian majolica, old Rouen and other kinds of pottery, are excessively clever, and far cheaper in price than anything of the kind manufactured in this country. Their embroidered linen for table and toilet use, and printed canvas for mural decoration, are also specialities of design and workmanship which we might do well to imitate.

Assuming, however, that the condition of industrial art in England, at the present day, is hopeful, and that a little more education and a closer study of old work will bring about a reform in household taste, what will be the result? Socially speaking—and we must not lose sight of the social aspect of the question, for that is the one which we are called on to consider—socially speaking, I say, what is likely to be the effect of this reform in taste upon ourselves and our children? I think that in the first place it will by degrees educate the eye to an appreciation of good forms and colours. It will invest our homes with a domestic charm which it was absolutely impossible to realise a quarter of a century ago. It will tend to create an interest in special departments of industry. It will teach us that good work even in the humblest department of taste can only be produced by thoughtful and skilled labour, and that if we want a good article we must be prepared to pay a fair price for it.

In course of time, no doubt, furniture of a plain and homely description will partake of that improvement in form and material which now distinguishes furniture of the best class, but until the manufacturer has been encouraged, by people of taste, and adequate means, to improve the design of his goods, and until his workmen have thus been enabled by experience to get into the right groove of work, and to revive the traditions of their craft, we cannot expect that good taste, which is stunted in the mansion, will extend to humbler domiciles. The price of labour in the present day, as well as the novel and constantly increasing requirements of a luxurious age, will no doubt render it impossible to return to that condition of things when a knife handle or a salt-cellar was a work of refined art. But at least we may remember that money recklessly squandered in the cause of fashion, on the gastronomic superfluities of the dinner table, for instance, ephemeral caprices of a milliner, might be more profitably spent in encouraging taste and skill in those departments of industrial art, specimens of which we admire under the glass case of a museum, but which, if we choose, might be reproduced for our own households. And I venture to think that the constant association with such objects, if a time should ever arise when we find ourselves surrounded by them, and our children grow familiar, from their earliest days, with refined form and deftly combined colours, will be the best foundation that can be laid for a sound national taste—the best training that we can advise for a popular appreciation of the higher achievements of art, whether it be in painting, sculpture, or architecture. At present, I fear, our picture galleries and museums afford genuine pleasure only to the educated few, and the majority of persons who visit them do so either in idle curiosity, or because they feel that it is the correct thing to do—just as some people of fashion hire an opera box for the season, without caring a jot in their real hearts for the music, which they listen to in the cause of propriety.

It is of course impossible to expect that by such means as I have suggested we can ever cultivate in the million that keen and discriminating sense of beauty which is felt by artists for the subtlest qualities of art, and which can only be acquired by special study; but, at least, we may hope to educate the popular taste so far as to distinguish what is refined and noble from what is vulgar and mean.

Mr. Ruskin, in one of his most popular books, inveighed bitterly against the use of the term "high art," and declared that all good art was and ever had been a low and common thing. Like many other of his apparently extravagant theories, there is a foundation of truth in this dictum; and I believe that a little practical instruction in the principles of taste given in familiar language, and unencumbered by the sophistry of aesthetics, would do more to diffuse a knowledge of art than all the profound and obfuscating dissertations of the German critics. One of the most skilful and accomplished architects of the present day once said to me that he believed the real principle of design in architecture was common sense. I will not venture to connect this principle with the practice of other arts, concerning which it would be presumptuous in me to offer an opinion, but I must say that I look forward to the time when the grammar of old art may be so taught that its language shall appeal far more widely to the people of this country than it does at present. Now one of the first lessons in that grammar would be the improvement of household taste, and this being so, we should surely hail with delight any popular attempt to imitate, though it may not rival, the productions of our best designers. Everything must have a beginning, and though the examples of furniture turned out by ordinary manufacturers may be but indifferent copies of the best work, they are sure to improve year by year. Remember the wretched parodies which passed under the name of Gothic architecture half a century ago, and consider the artistic excellence which has been reached at this stage of the Revival. Why may we not expect a similar improvement in industrial art? It is no doubt a little annoying to this or that leader of taste when he finds his inventions travestied or becoming common property, but after all it is the fate of leaders to be followed and the fate of the copier to be inferior, and he may well derive satisfaction from the hope that he is guiding the public even after this indirect fashion. It is certain that no monopoly of skill will lay the foundation of a national taste, and if for the purpose of discouraging imitation a change of style is constantly proposed, we cannot be surprised if the public, mistrusting this will-o'-the-wisp leadership, begin to ask whether there are any fixed principles of taste at all.

I am afraid that in making these remarks I have the misfortune to differ a little from some which have been already expressed, but the point referred to is so intimately connected with the subject of my Paper that I could not refrain from touching on it.

Secondly, I think this revival of good taste will operate favourably on the artist. It is not very many years ago since the profession of Titian and Vandyke was regarded with distrust, and even disparagement, by what is called Society when a young man of good family adopted it as a means of livelihood. Thank goodness, we have survived the folly and snobbishness of that prejudice. But to this day there are branches of art so little understood and appreciated in this country that the world of fashion has until lately only recognised them in a spirit of condescension and patronage. This was of course the result of ignorance and indifference—a relic of that dark time for art and letters when an author received his honorarium for a dedication, and a painter was ready to alter the composition of his picture at a patron's bidding. A reflex action was the result of this condition of things. The artificial etiquette which had raised a social barrier between artists and their patrons found repetition in the world of

art itself. A painter of note in the last generation would have hesitated to employ his brush on the decoration of private houses. Architects did not think it consistent with their dignity to design the furniture and fittings of the mansions erected under their superintendence. The consequence was, of course, a half-hearted interest in art, and the exercise of domestic taste was left to house painters and upholsters, with a result from which we are only just beginning to recover.

It was long before the British public awoke to the fact that there are other conditions of pictorial art besides those fulfilled in the completion of an easel picture. It was long before they seemed to remember that the interior of their houses demanded as much care, and frequently more skill, to insure artistic excellence than the street front itself. The very door panel of a cabinet may present, in carved or inlaid work, a richer field for design than a whole façade in stone, and I confess that to my mind there are occasions when one deserves as much attention as the other.

In like manner, when decorative painting includes the design of the human figure or animal life, it would be absurd to draw any social distinction between the man who paints in oil and the man who paints in distemper. One of the most successful followers of this revived branch of art at the present day is a gentleman who has taken his degree at Oxford, and whose admirable work, a specimen of which may be seen at Liverpool, bears all the evidence of a liberal education.

Again, the design of wall papers and curtains used to be left to the hands of draughtsmen who have been trained, indeed, after a conventional fashion, but who had frequently neither studied nor appreciated the spirit of ancient art. Now it is some evidence of a reform in national taste, some index of the position which it occupies in the social mind, when we find that at the present time a scholar—and one of the most gifted poets of his day—is the head of a firm by whom such articles are designed and supplied to the public.

If reform in household taste has thus enlisted the sympathies of the educated for long neglected handicrafts and branches of manufacture which had sunk to the level of a mere trade, we may be sure that it has had a beneficial effect upon the artisan whose skill is thus directly associated with work which the classes above him not only require but enjoy. There must always, of course, be a certain amount of dull and purely mechanical labour in the world which is simple drudgery, for which the workman receives his wage and is forgotten. But there is at least one field of occupation that becomes a sort of common ground in which all classes are alike interested, in which manual skill is as necessary an element as educated taste, and that field is the development of industrial art. An interest in such workmanship at once utilises wealth and dignifies labour, and to encourage it is to encourage a beneficial influence, operating more directly, perhaps, than any other, upon two sections of society which other circumstances divide.

I cannot conclude these remarks without expressing my hope that in the Government department of art, of which our president is now the official director, some effort will ere long be made to form a permanent collection of objects illustrating the modern progress of every branch of British manufacture into which the element of taste enters. I can imagine the difficulties of forming such a collection, and that unless great care were taken the Museum at South Kensington might be inundated with specimens of indifferent merit. But surely it would be possible to provide against such a contingency. In the best pictorial exhibitions a certain measure of ability is required in every work admitted. Why should not a similar standard be required in an exhibition of industrial art? The fault of such exhibitions hitherto has been that they have assumed too much the character of a bazaar. What we really want for the encouragement of good

taste in manufacture is not a bazaar, but a museum of carefully selected objects. The selection might be a delicate task, but it is one which could be easily undertaken by a competent committee. Imagine the benefit which the general public would derive from visiting such an exhibition, in which every object exhibited was distinguished by some special merit of design or workmanship. Fancy the emulation which would ensue among manufacturers—the education which would be incidentally afforded to the designer and the workman. Instead of wandering listlessly between stalls filled with the products of ordinary trade, visitors to such an exhibition would feel that everything they examined was worth attention and study. The real principles of household taste would be taught and illustrated, and the very question which we are invited to discuss to day would be answered in a practical form.

WANTED— A MONUMENTAL DOCTOR.

It is stated on the authority of the *Lancet* that the Hyde Park "Achilles," presented to Arthur Duke of Wellington by his countrymen, and which was made presumably of the best gun metal, is showing evident symptoms of decay, which must sooner or later prove fatal. It appears that the sulphurous acid of the London atmosphere has proved too much for his iron constitution. "His right shin is covered with a serpiginous ulceration [murder in Irish!], his thighs, like those of Sir Simeon Stylites, are 'rotted with the dew,' and the daylight comes sadly through the very centre of his shield." Mr. Gladstone should look to this, as he is an authority upon the shield of Achilles; but we fear that with a ringworm in the right shin there is little hope for the standing power of poor Achilles. Church and cathedral bells have been safely re-cast, and perhaps it will come to this with our bronze statues if the London atmosphere is not more relenting.

INSTITUTION OF CIVIL ENGINEERS (LONDON).

THE first ordinary meeting of the fifty-ninth session of the society was held yesterday at the rooms of the Institute, Great George-street, Westminster. Happening so close to the date of our issue, we are obliged to postpone a report of the proceedings. The strength, popularity, and prosperity of this society is evidenced yearly by a large accession of members. It has at present upwards of 2,400 members, 155 having joined last year. Architectural societies ought to take a hint, and advance.

ANTIQUITY AND ASSURANCE.

It is an exceptional occurrence indeed to find in the yearly or half-yearly proceedings of public companies ought to interest the antiquary or archaeologist. At the annual meeting of the shareholders of the Gresham Life Assurance Society, a Mr. Sally, when the report was read and adopted, enlivened the remainder of the proceedings by giving some particulars of Old London made manifest in vestiges unearthed in preparing for the new building of the Gresham Assurance Society. He stated that during the progress of the work they had come across traces of the history of England for the last 2,000 years. First they had come across the remains of Queen Anne's time in traces of the old Poultry Compter, to which rogues and vagabonds were taken. Lower down they came to the Great Fire of 1666, in the charred remains of houses which had been pulled down, and hurriedly built over again without time to remove the materials. Then a little lower they came to times of Queen Elizabeth in the waterworks, which used to be supplied from a pond there for the use of the gentry who lived in Bucklersbury. A little lower, there were coins of the first and second Edwards, and at the bottom of all was the virgin

soil, which was there when deer and goats occupied the fens of Finsbury. This was the site of that old river which in the time of King Lud took the name of the *Wall Brook*. They had carted away 6,000 or 7,000 waggon-loads of earth, before they could build the solid foundation wall which was required for the safety of their new building. He hoped that the solidity of the building was significant of the future stability of their society.

THE TIMBER TRADE.

Messrs. Richard Martin and Co., of Sir John's-quay, have issued a specification of their present stock of wood goods, comprising red and white deals, flooring boards, &c., which will be found worthy of attention. The use of well-manufactured scantlings by those engaged in the building trade will be found economical in time, material, and money. On the way to this port they have a cargo of Helsingfors red deals of special sizes. Of Quebec goods per *Humber* they have—18 ps. white oak, up to 75 ft. long 23 in. sq.; 9 white ash, up to 21 in.; 11 rock elm, up to 42 ft. long 16 in.; 515 red pine, up to 15 in.; 53 square white pine, up to 21 in.; 107 Waney board pine, up to 25 in.; 8,605 1st spruce deals, 9 by 3 and 11 by 3; 5,457 2nd ditto, 9 by 3; 858 2½ in. pipe staves; 7,200 w. o. w. i. hhd. staves. Of bricks, tiles, slates, &c., they are holders of large stocks.

FIRE-CLAY GOODS.

Messrs. Robert Brown and Son, of the Ferguslie Fire-Clay Works, Paisley, send us a list of the several articles manufactured by them, which, it must be acknowledged, are highly artistic as well as useful. Over two hundred samples are shown with good effect in white on blue ground. To their white enamelled bricks, tiles, baths, sewerage pipes, &c., they direct the special attention of owners of property, architects, civil engineers, plumbers, and others. Their sewerage pipes, with spigot and faucet joints (manufactured according to Jennings's patent), are very strong, well glazed, and specially adapted for their intended purposes. In this branch the firm are doing a large trade. From a "Reference Price List" appended to the Catalogue, intending purchasers can with facility ascertain the tariff of each item illustrated. The Dublin Depot of the firm is at 69 North Wall, and their agent and manager is Mr. Robert Henry.

CORRESPONDENCE.

CORMAC'S CHAPEL, CASHEL.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—The letter of Mr. Drew in your last number suggests more than one question respecting the architectural features of Cormac's Chapel. The flue in the wall is still a puzzle. In my opinion neither heat, nor air, nor joists, had anything to do with it, but simply sound. It is an incontrovertible fact that in some of the mediæval churches flues or hollows were constructed in the walls to produce a solemn vibration or echo at the singing. Whether in reality they had that effect on the performance of the choir, is, perhaps, a debatable matter. Not five hundred yards from where I now write are the well-built roofless walls of an old church, and midway between the foundation and the eave a flue or chamber of this kind runs horizontally for some ten or twelve feet through the centre of the southern wall. Some people, imagining that it contained treasure, broke it open from one end to the other. There was no sign of timber or of soot, or treasure; it was *vox et præterea nihil*. I have myself seen a horse's head taken out of a similar hollow in the walls of an old church. I suppose it was considered that the dry hollow head improved the vibration.

Now another question for the architects. There are two square towers to the front of

Cormac's Chapel: The top of the south one is square, and it has four large windows or openings for transmitting the sound of a bell. But the top of the south tower is angular, or conical, and in each square under the head are four small openings, and at some distance below them a door-way high up. What was the use or meaning of that arrangement? Perhaps Mr. Drew, or Mr. Hill, or Mr. Deane, or some other architect may be able to explain the use or meaning of these features.—Yours, &c., A CELT.

RATHMINES WATER SUPPLY.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—An article of intelligence appears in a morning journal under the above head, in which so many inaccuracies occur that I am unwillingly obliged to trouble you with a short statement of what did take place.

Neither of the meetings referred to were the monthly meetings, or in any degree private, in the ordinary meaning of the term. We never admit the press, because we meet for work and not for talk, but the meetings referred to were both called for the special purpose of considering the water question and nothing else. At each 19 commissioners were present, only one gentleman being absent from both meetings. At the first meeting it was resolved by 11 to 8 (not 10 to 9 as stated) to proceed with new works to double the supply from the present source, with 35 feet more head, so as to have two millions of gallons instead of one million, as at present. This would cost £800 a year, from which the cost of pumping, £500 a year (not £300 as stated), is to be deducted. The quantity at present delivered to the ratepayers has been measured and ascertained to be between 900,000 and a million gallons per day. The quantity ought to be more than ample, if fairly used. It is not so used, and we have some complaints of short supply. It is very remarkable, however, that we have not a single complaint as to quality. The proposal by the eight gentlemen was merely to ask the price of the Vartry. In deference to the wish of so many, I undertook to do so, and though not furnished with any authority, the Waterworks Committee, with a kind courtesy for which I have to thank them, supplied me with every requisite information, and I am bound to add showed every desire to meet us. It then, however, appeared on figures, which were not controverted, that to obtain the present supply of a million a day we should have to pay £2,400 a year extra, and for two millions nearly £6,000 a year more. There were other unacceptable conditions, but I do not feel warranted in naming them, as possibly they would have been arranged. The result was that five of the eight gentlemen expressed themselves satisfied, and the three dissentients did not propose to take the Vartry, but that we should try to check the waste, and in the meantime do nothing. The new reservoir is not as was stated—three miles further, but only half that distance.

I do not think that the ratepayers are so blind as is supposed to the danger of dealing with the Corporation at all, who are so anxious to annex us, and to which end the contract for water would be an important step. They also distinctly stated that they could only undertake to supply us after the city, which had the first claim.

It would, I think be a burlesque on representative government if, at the instance of two or three gentlemen out of 21, we were to appeal to the ratepayers. While I have a seat at the board I will have the courage to maintain my opinions, and if the ratepayers are dissatisfied they can turn me out. I believe many ratepayers would prefer the Vartry if they could get it without paying for. It is proved they will not pay 1s. 8d. in the pound. I doubt if twenty could be found willing to pay 6d. We are supplying several large consumers by meter, who have both supplies, and prefer ours.

FREDERICK STOKES.

THE ARTIZANS' INSTITUTE—TECHNICAL EDUCATION.

PERHAPS some of our Dublin building operatives will take a hint from what follows, whether members of our Mechanics' Institute or not:—Mr. J. F. Iselin, H.M. Inspector from the Science and Art Department, South Kensington, has reported to Major Donnelly, R.E., on the technical classes held at the Artizans' Institute, Upper St. Martin's-lane. After stating that he saw three of the technical classes at work, viz., for carpenters and joiners, for bricklayers, and for turners in metal, Mr. Iselin says:—"From one, and that by no means an unimportant aspect, I can conceive of technical classes of the kind here carried on to be of very great advantage to the workman. So subdivided is skilled labour now becoming in the great workshops, that a man may spend a lifetime almost in making only one kind of article, or in performing only one operation. Now, in these classes, an intelligent man can see and learn all the branches of his trade. Should one fail, he is ready without loss of time for another. As a connecting link between the science of individual processes and the handicraft of the workshop, technical classes of the character which are carried on at the Artizans' Institute should, I believe, not only be of very great benefit to the workman, but might be instrumental in furthering the industrial progress of the country. Under the regulations of the Science and Art Department no Government grants can be made in aid of such classes, but I think that nothing could be more worthy of the support of the manufacturers whose trades can be improved by the skill of the artisan, or of public bodies who can and will give money to raise the position of the working classes."

HOME AND FOREIGN NOTES.

We understand that the Tullycavey Slate Quarries, situate between Greyabbey and Ballywater, County Down, are being re-opened by Messrs. Ritchie and Jackson, of Belfast. The slates produced are said to be of very superior description.

IRISH CIVIL SERVICE LITERARY SOCIETY.—The inaugural meeting will be on Monday evening next, at the Royal College of Science.

ROYAL DUBLIN SOCIETY.—The first evening scientific meeting for the session 1876-77 will be held on Monday evening next. Communications will be read by M. A. Hayes, R.H.A.; R. J. Moss, F.C.S. The City Analyst will read a paper "On a Material Impervious to Moisture for the Manufacture of Bricks for Damp Courses." For exhibition, a sample of magnetic iron ore from Wicklow.

DERRY CENTRAL RAILWAY.—A special meeting of the Belfast and Northern Counties Railway Company was held last week in Belfast, to authorise a subscription to the extent of £10,000 by the company towards the undertaking and objects of the Derry Central Railway, and to expend £25,000 on works to be executed by that company, and to authorise the Northern Counties Company to raise or borrow that sum. The chairman (Mr. E. J. Clarke, J.P.) moved a resolution to that effect, and Sir Charles Lanyon, J.P. (vice-chairman), in seconding the resolution, explained that of the £35,000 there would be £15,000 expended in doubling the Northern Counties line between Macfin and Coleraine, and £10,000 would be devoted to the improvement of the station at Coleraine. The remaining £10,000 would be taken up in shares of the Derry Central Railway, so that the greater portion of the amount named would be devoted to works mutually beneficial to both companies. The resolution was unanimously adopted.

THE THAMES TUNNEL.—There is a curious legend concerning the original designer of the Thames Tunnel, the renowned engineer, Sir Mark Isambard Brunel, which appeared years ago in a French newspaper. The legend relates that the first Brunel, just after the Peace of Amiens, or shortly before the renewal of our war with France, read before the French Institute a paper explanatory of a scheme for boring a tunnel beneath the bed of the River Seine at Paris. This project was denounced and ridiculed by another member of the Institute—none other, indeed, than the First Consul of the Republic, Napoleon Bonaparte; and Brunel, irritated at the contemptuous reception of his plan, quitted France in dungeon, to become in his ex-

triation, not only the designer of the Thames Tunnel but practically, as the inventor of the ship block machinery, one of the deadliest enemies of France. And did not the first Brunel, about 1812, set up a factory near Putney or Wandsworth for making boots and shoes by machinery for our soldiers and sailors?—*Illustrated London News.*

THE CENTENNIAL CITY.—Philadelphia is (says the *Irish World*) the largest city in area in the United States. It was settled and laid out by William Penn, in 1682, a man who, though not a soldier, won a greater victory over the Indians in his day than a score of Custers could possibly achieve. Philadelphia covers an area of more than 120 square miles. It is 23 miles in length, and averages $5\frac{1}{2}$ miles in width. The population is 800,000, and the number of dwelling-houses is 135,000—from whence it has won the title of the "City of Houses." The number of buildings at this day is considerably more; for round about the Centennial Exhibition has grown up a very decent-sized city in itself. Philadelphia has 1,000 miles of streets. Beneath these roads run 600 miles of gas main pipe, and about the same of water pipe. The Delaware and Schuylkill Rivers run through the city at several points, and over them substantial and magnificent bridges are thrown, from which splendid and distant views are had far away over the great city. The streets are crossed and recrossed by over 250 miles of street railways, on which some 2,000 cars continually run from sunrise till midnight.

A MODEL ESTATE.—The estate belonging to the Earl of Bessborough has long been well known as one of the best managed estates in Ireland—a distinction which it owes to the close attention personally given to every matter by the noble proprietor and the Countess of Bessborough, whose great object in life is evidently to promote, by every means in their power, the improvement and social comfort of their numerous tenantry and dependents. These, in return, regard Lord and Lady Bessborough with sincere affection, knowing well, from long experience, that their landlord and his lady are their best friends. The results of the care bestowed by Lord Bessborough on his estate are to be seen in the comfortable dwellings and farm buildings of the tenant farmers, and even more so in the excellent cottages which have been erected for the labourers. These, with their neat gardens, show a degree of taste rarely seen elsewhere, and the order in which most of the cottages are kept, so far as regards their internal arrangements, affords a sufficient reply to those who assert that any attempt to raise the social condition of the labouring classes in Ireland must end in disappointment. The village of Piltown is a model in itself, and it would compare favourably even with some of the best villages of the size in England. The typical cabin, with its dunghill in front, and squalid, comfortless interior, is unknown in Piltown, and in place of it there are substantial and tasteful cottages built of stone, well finished and well furnished inside. Those proprietors who contemplate improving the cottages on their estates would do well to visit Piltown and its neighbourhood, as they would thereby obtain an amount of practical information on the subject which they would scarcely derive from any other source.—*Farmers' Gazette.*

TO CORRESPONDENTS.

ARTIZANS' DWELLINGS ACT.—We regret to find that our public bodies over the kingdom are not availing themselves to any great extent of the provisions of this act for effecting improvements. We believe that Mr. Cross, the Home Secretary, in next session of Parliament will bring forward some amendments which will have the effect of compelling public bodies to move promptly wherever the necessity is shown to exist for them doing so.

A GAS CONSUMER.—The matter is as exactly as you have stated.

PROVINCIAL ARCHITECT.—We are hoping every day to witness some announcement that the body "still lives."

A BUILDER'S APPRENTICE.—Copies of the books mentioned were formerly to be had in the Mechanics' Institute, and are, perhaps, to be had there still.

C. E. (Westminster).—A copy is posted regularly.

FINGALL.—We are not aware that any excavations were ever made at Conquer Hill, Clontarf. The mound, we believe, still exists.

RECIPE.—Surveyor (Galway). Thanks.—J. R. (Bury).—W. A. (Derry).—M. D.—S. F.—Citizen.—H. W.—T. C. D.—G. M. (London).—E. S. L.—R. A., &c.

THE ADULTERATION OF FOOD.*

THE term "adulteration" may be broadly regarded as signifying the substitution for a more or less considerable proportion of the article sold as genuine, of other substances intended either to increase the total weight of material, or to give to the mixture the

appearance, and to cause it to stimulate the properties of a better quality of goods than that actually sold; in either case the purchaser is defrauded, inasmuch as he pays for an inferior article the price due for a superior class of goods. The same result is manifestly arrived at, if any important constituent be wholly or in part abstracted or omitted from the substance sold, the purchaser being kept in ignorance of the circumstance, and being led to believe that the article supplied is of a quality superior to its actual nature. Thus, the addition to milk of ordinary water, or the subtraction from it of cream, constitutes an adulteration; the admixture of cheap fatty matters with cow's butter, or the addition of roasted acorns or chicory to coffee, of sand to sugar, of starch to mustard, of sulphuric acid to vinegar &c., are adulterations when the alteration or admixture is not specially required by, or not duly notified to, the purchaser of such altered articles. In short, adulteration means the selling of an inferior or debased substance under the name of a superior or genuine article. So far from being a device of modern invention, the adulteration of food is a practice that has flourished for many centuries, more especially in the case of wines, malt liquors, and bread; and on account of the injury to health likely to be caused in many instances by the addition of deleterious ingredients to the food-stuffs thus manipulated, such practices have for centuries been rendered illegal by special enactments, and penalties have been inflicted on those perpetrators, who have been caught *flagrante delicto*. Thus, Entic states ("History and Survey of London and Westminster," London, W. Ward and Charles Tilley, 1766) that in the reign of Henry III. punishments were inflicted for various offences connected with the sale of food, e.g., short-weights, deficient measures, admixtures &c.; whilst in the reign of Edward I. the imperial and municipal laws against adulteration were extended in their operation, and were more generally enforced; in A.D. 1274 he states that "engrossing, forestalling, and all sorts of frauds and impositions in the sale of provisions, has now got to such a height as to oblige the Legislature to provide new laws against such practices, especially against bakers for short weight and bad materials in bread, and against millers for bad measure. Therefore, his Majesty commanded the Mayor of London and the sheriffs to enforce those laws and also to regulate the price of provisions, especially of poultry and fish, by which laws the baker for the first offence was to forfeit his bread; for his second offence to suffer imprisonment; and to be pilloried for the third. The miller was to be carried in a tumbrel or dustcart through certain streets, exposed to the derision of the people; accordingly, an ordinance was published by the Mayor and other magistrates in this form." Twenty-one years after (1295), "the King sent a precept to the Mayor and Sheriffs of London, to punish corporally all bakers, brewers, and millers convicted of bad practices, and also to oblige millers to return the flower by weight according to the weight of the grain sent to be ground"; and, in 1311, Edward II. issued a special writ enacting, amongst other restrictions on wine dealers that "every wine to be set at its value without mixture," whilst about this time various prosecutions of bakers appear on record for selling bread made of objectionable materials, "so that persons by eating that bread would be poisoned or choked." One, Alan de Lyndeseye, was twice convicted of selling bread "made of false, putrid, and rotten materials, through which persons who bought such bread were deceived and might be killed," and for these offences he was pilloried on each occasion. In 1364, vendors of bad and adulterated wines were compelled to drink some of their own mixtures, and were thoroughly drenched with the remainder which was poured over them; at the same time their trade privileges were lost. In the middle of the fourteenth century several of the guilds of tradesmen dealing in articles of food, agreed amongst themselves to draw up

* From paper by Dr. C. R. A. Wright, published in *Medical Press*.

codes of regulations for their respective trades, amongst which regulations prohibitory of short weight, and of adulteration generally, bore an important part; for example, the association of spicers and pepperers issued such an ordinance in 1361, whilst, in 1370, the vinters guild agreed "that four men of the trade should be chosen and sworn to search into such defaults, and to oversee that the ordinances are well and justly kept and observed from year to year; and that no wines shall be exposed in taverns for sale before that the four persons aforesaid shall have seen that they are good and fit for sale." (Riley's "Memorials of London.")

It thus appears that Acts for the repression of adulteration of food are of considerable antiquity, and also that something very much resembling the modern organization of inspectors and analysts was in vogue centuries ago, the chief difference being that the antique systems only attempted to deal with one or two kinds of provisions at a time, and that chemical science, being then practically not in existence, was not called into requisition as a means of proving the existence of adulteration in the substance condemned.

During the last century various enactments have been made at different times with a view to the repression of adulteration of various kinds of food, and some of these are so worded as almost exactly to correspond with certain clauses in the most recent laws relating to the subject; thus, in 1777, an Act was passed whereby a fine of five pounds was inflicted on any one who should "mix, colour, or stain tea," and these very phrases also occur in the most recent Act on this subject (Sale of Food and Drugs Bill 1875); in the reign of George IV. it was enacted that any person using either alum "or any preparation or mixture in which alum should be an ingredient" for the manufacture of bread, should be liable to a fine not exceeding £20, or to imprisonment for from three to twelve months in default. By the same Act, power was also given to inspectors to enter the premises of any baker, in order to search for, and if found, to seize adulterated bread or the materials used in its manufacture; if such substances were found on the premises of any baker, he was liable to the above-mentioned penalties, whilst punishments were also provided for the obstructing or hindering these officers in the execution of their duty. Another Act relative to adulteration was passed in the reign of William IV. (6 & 7 Vict. IV. c. 37.)

Notwithstanding, however, the praiseworthy desire on the part of the legislature and the more respectable portion of the food trades to put down the practice of adulteration, this evil has always existed to a greater or less extent. Of late years the rapid strides made by science have given great facilities for the employment of certain special malpractices of the kind, flavouring matters of numerous kinds being obtainable by various chemical processes; these are often extensively used along with cheap materials as a basis to manufacture spurious viands of peculiar or agreeable flavour or taste, wines, liqueurs, and malt liquors being the chief substances thus fraudulently manipulated and adulterated; the modern diffusion of knowledge and the extension of science have thus acted both injuriously and beneficially on the purity of the food supply of the population. On the other hand, it has enabled many to judge for themselves by simple tests whether the substances sold are really what they are represented to be; and the mere knowledge that most deleterious ingredients can now be readily detected by chemical analysis serves as an effectual deterrent from their use in numerous cases, and thus greatly tends to improve the quality of the food supply. On the other hand, it has rendered people aware of the nature of many adulterations who would a few decades ago have remained in ignorance of the possibility of making large sums of money by such malpractices, such knowledge being then confined to a comparatively small number of

people, or not existing at all. In this respect the progress of education reminds one forcibly of the old story of the ostler who on being asked by his father confessor whether he had ever greased the teeth of the traveller's horses to prevent their eating their allowance of oats, replied, "No"; but on being asked the same question again some weeks later answered, "Faix, since your reverence was so good as to tell me the trick, I've been tempted to try it, and be the powers a beautiful plan it is altogether!"

In 1842, the laboratory at Somerset House was established by the Board of Inland Revenue for the purpose of detecting and suppressing the adulteration of tobacco and snuff, at that time carried on to a large extent; the immediate result of this step was that as soon as sufficient experience had been gained to enable the staff to detect the nature of the fraudulently admixed substances, the obnoxious practices rapidly diminished in frequency. Such bodies as peatmoss, starch, malt-combings, ground wood, fustic, chicory leaves and roots, coltsfoot, rhubarb, dock, and other leaves of different kinds were thus prevented to a great extent from taking the place of genuine tobacco. The success of this experiment led to the placing of the examination of many edible products liable to duty in the hands of the department, e.g., pepper, tea, coffee, limejuice, &c., &c.; and as regards these additional substances, the results have been satisfactory with reference to the quality of imported produce. Manifestly, however, the examination of a cargo by the Somerset House testers and its being found free from injurious admixtures is but little guarantee that the foods retailed up and down the country are unobjectionable; whilst many articles of food, not being subject to duty, are never examined at all by the Government analysts.

The evils arising from the sale of adulterated foods by retailers became so great about the middle of this century that when the well-known *Lancet* Commission examined the subject carefully, the number of samples found to be adulterated frequently outnumbered the pure substances met with in the retail trade. Then Dr. Hassall's results were that pure bread and unadulterated milk were almost impossible to procure, alum being almost invariably present in the former, whilst the latter was watered to an astounding extent, frequently exceeding 50 per cent.; of 49 samples of bread consecutively examined not one was pure. Tea was almost equally bad, turmeric "lie tea," starch, Russian blue, China clay, and more especially exhausted leaves being almost always present. More than 80 per cent. of the specimens of coffee examined were adulterated with mangel-wurzel, beans, chicory, acorns, and various other substances; even the chicory used to adulterate the coffee was frequently itself adulterated in turn with powdered roasted carrots, &c. Cocoa was very frequently admixed with large quantities of flour or starch, and in order to hide the addition was then coloured with metallic or earthy substances, ochre, &c. Pepper was mixed with linseed, rice, wheat, mustard, &c. Pickles invariably contained copper, and spices were frequently increased in bulk by the admixture of flour, arrowroot, starch, sago, &c. Notwithstanding that out of many hundred substances examined many were of a nature where adulteration was unprofitable or very difficult, it was found that about 65 per cent., or nearly two-thirds, of the total quantity of samples examined were adulterated, and it appeared that the goods supplied to the poorer classes of customers were almost invariably impure, and frequently to a large extent.

Mr. Wanklyn only found six pure samples of milk out of 56 specimens of the material supplied to the London workhouses, whilst out of hundreds of samples from other parts of the country, more than half were found to be adulterated; although the names and addresses of all the delinquents were published, yet not one action for libel was brought (although one at least was threatened).

Erre's Cocoa.—Some time since, in a series of articles in these columns upon food, we spoke in terms of unqualified praise of Messrs. Epps and Co's "Prepared Cocoa." The opinion we then expressed as to its purity and nutritious qualities has been fully endorsed by the public, as shown in its increased and steadily increasing consumption. We believe that Messrs. Epps's Manufactories are now the largest of the kind in the three kingdoms, and the total quantity of "Prepared Cocoa" consumed at the present time approaches four millions of pounds annually. This result is not surprising. The dietetic properties of native cocoa are well known, but in the form prepared by Messrs. Epps, Homoeopathic Chemists, they are rendered additionally valuable, both on account of their increased nutritive power and digestible character.—*Civil Service Gazette.*

NOTICE.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

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The Irish Builder.

VOL. XVIII.—No. 407.

The Glasnevin and Drumcondra Drainage Schemes.



WO reports on the drainage of the above districts are before us, which were submitted respectively by Mr. Arthur L. Cousins, C.E., and Mr. P. F. Leonard, C.E., at a late meeting of the North Dublin Union Sanitary Board. The first-named gentleman recommends a scheme which, instead of having the sea or the strand at the mouth of the Tolka as an outfall for the sewage, would utilise it for the fertilisation of the land, which is known as the "intermittent downward filtration process." The second gentleman's scheme embraces a plan of drains and intercepting sewers, having a common outfall a short way below the railway bridge on the East-road. In our present issue we illustrate the latter scheme by giving a map-plan, on which the line of the sewer and intercepting sewers is marked, accompanied with some details from the author's report.

At the threshold of our remarks let us say that a practical solution of the drainage difficulty in relation to the districts of Glasnevin and Drumcondra is much desiderated; but as yet, considering all the circumstances attending, it has not appeared.

The scheme of Mr. Cousins, as far as the utilisation of sewage is concerned, is one to which we have always been favourable on broad grounds, apart from any particular locality. In adopting it, however, the present and the future of the district concerned should be well considered. Although the Glasnevin and Drumcondra scheme may in course of years be absorbed in the Metropolitan Main Drainage one, for the present it must perforce be considered as one apart. It is subsidiary in one sense, or it will be; but at present, if carried out, it is likely to stand alone for some years.

A large portion of the Glasnevin and Drumcondra districts are at present very thinly populated, and, unlike the southern suburbs, the northern ones are advancing very slowly in buildings and population. In fact it is apparent, without going into lengthy details, that a sewerage scheme likely to prove expensive would be entirely unsuited to the above districts; and the utilisation of the sewage, though good in itself when connected with a thickly-populated and manufacturing district, would in the case of the Glasnevin and Drumcondra prove an unprofitable scheme. The manurial and fertilising value of the Glasnevin, and particularly the Drumcondra, sewage would be very small indeed; and if Mr. Cousins's scheme were carried out, the sanitary authorities of the district should be prepared to carry it out at no small loss for a considerable time.

The irrigation of land carried out by a public board means the obtainment of a certain number of acres of land, plant, machinery, labour or working expenses, in addition to the first cost of the sewers constructed. It must be remembered, too, that in this country our people are not yet educated to

the point to induce them to give their attention to sewage-utilisation schemes. In England and on the Continent farmers are ready to avail themselves of facilities for having their land irrigated, or of otherwise obtaining the sewage in a more solid and transportable form. The facilities afforded by large municipal bodies to farmers and others under sewage-irrigation schemes would be altogether wanting in the local scheme under notice. Under a well-managed Metropolitan Main Drainage in Dublin—to which in the future Glasnevin, Drumcondra, and other districts would be subsidiary,—of course the matter would be otherwise; but that is a matter of a future time to which none of us are able to fix a date.

We have read through Mr. Cousins's report, and, without desiring to be fault-finders, we must say on many points he is most indefinite, and he writes in a very uncertain manner on a very important subject. He shows a great want of confidence in his report, and we are forced to read his scheme as a whole more as a recommendation or a suggestion worthy of consideration than as a scheme of which he has faith in himself, and is certain ought to be carried out. He indicates a good many things, but positively expresses few, and his scheme is buoyed with hopes and anticipations of relief to be afforded by the future Main Drainage scheme. He does not tell us how certain two parts of the districts are to be combined and served by one sewerage system. He says convenient outfall may be obtained by two methods—one by using whatever outfall the city system will supply (a future hope), the other by providing outfalls within the district itself. Then we are told other outfalls can be reached, but in localities already suffering from other sewage. We have three "others" in one paragraph, but where the needed "other" outfall is situated we are not told. Next we are informed that the scheme is tentative as to outfall, but we are not told why. We do not purpose to specify different parts of Mr. Cousins's report where he leaves us almost in the dark for the want of definite statements.

Mr. Cousins estimates the cost of his scheme, irrespective of the cost of the land necessary for the purpose of irrigation, at £3,962, and the present population to be provided for is taken at 4,000, the increase at 200 per cent. As much as we are in favour of irrigation schemes and the utilization of sewage, we must honestly say that Mr. Cousins's report is not at all a satisfactory one. Some of his suggestions are worthy of consideration, but his scheme as at present propounded would not work—that is, it could only be worked at a great outlay and a great loss, viewing the present circumstances of Glasnevin and Drumcondra, and even looking a-head for some years to come.

Coming to Mr. Leonard's scheme, we must say, on the whole, it is a great deal better thought-out. He writes with more clearness, and he has fairly considered the difficulties and grappled with them in a workmanlike manner. The chief fault of this scheme, however, is in respect to the outfall, and it is a difficulty not easily overcome. We have long since pointed out the objections that would be made, and that are now made by the inhabitants of Clontarf to having an outfall upon a strand which is for several hours uncovered by the tide. Without some better provisions than are made in Mr. Leonard's scheme, each incoming tide would sweep a

portion of the sewage up the Tolka as far as the cascade in Richmond, as it does at present, and has done for years with a portion of Spring Gardens or "Mud Island" sewage and other foul matter discharged from the sewer beside Ballybough Bridge. The cost of Mr. Leonard's scheme, measured by a liberal scale, and including ten per cent. to meet all contingencies, is estimated at £4,899 18s. 8d. He calculates the property fairly assessable for these purposes is about £13,576, and he thinks a rate of 4d. would afford more than is absolutely needed.

Mr. Leonard's scheme is, we think, susceptible of much improvement in respect to the position of the chamber at figure F, which could be shifted, in view of the railway embankment, and the discharge could be made further a-sea. Still, no doubt a portion of the sewage would be washed back, but in a much more diluted state. Clontarf, of course, will be ready to find fault, though for long years a large portion of her own foul drainage matter found and still finds its outlet upon her strand. Clontarf, as well as Glasnevin and Drumcondra, needs an efficient system of sewerage; and, in the absence of a metropolitan system of drainage, she will be obliged either to utilise her sewage or discharge at some point on her shores. Clontarf needs a reconstructed and efficient system of drainage, and, under present circumstances, she is not in a position to draw unfavourable comparison between herself and Drumcondra and Glasnevin, though she is entitled to object to being in any way possibly injured by the outfall of the sewage of adjoining localities. In view of the future there are, at the same time, other considerations to be weighed. We have no doubt that in the course of some years a large expanse of the strand opposite and beyond Clontarf town, and extending towards Clontarf Island or the East-road, will be reclaimed from the action of the tide. This reclamation may be easily incorporated with that of the North Bull, and then our suburban or City Main Drainage will no longer present the same difficulty of being solved as at present. If it should be necessary, even the course of the Tolka could be turned, covered over, or, if thought desirable, made a tidal navigable river from Dublin harbour to Richmond or Drumcondra for small craft and barges. What the Dutch have done in Holland with facility, surely Irish engineering skill could achieve under similar circumstances.

Hinging on to the Dublin Main Drainage and suburban subsidiary schemes there are questions of great national importance. We have tapped the springs, the vista is in view, and it only remains for enterprise to begin operations and develop the great industrial resources that have long remained neglected in connection with our tidal waste lands and the utilisation of the sewage of the Irish metropolis.

THE SANITARY RECORD COMMISSION, THE CORPORATION, AND THE IRISH BUILDER.

THE commissioner of our contemporary the *Sanitary Record* has for the present completed his labours, the seventh and concluding part of his report on the sanitary condition of Dublin having appeared in the last issue of the journal he represented. On the whole, the commissioner may be congratulated for having performed a disagreeable task in an efficient manner; and if faults or defects are

to be found with his work, they must, when all the circumstances are weighed, be pronounced as trivial. We have already said, and we repeat it again, that there is no honest man in our midst—whether he be an experienced citizen, a public official, or a professional journalist—can dispute the majority of the terrible facts, revealed for the first time in some instances and re-stated with corroborative proofs in others, respecting the miserable sanitary state of this city. If the late commissioner was a stranger in Dublin, he was entitled to seek and solicit information wherever he could, and avail himself of it; and it was the duty of public officials to afford the information sought. Personal observation needs to be supplemented, particularly in the case of a stranger, by the information which old citizens and long-resident officials may be expected to possess. Information was rendered to the “commissioner,” but not exactly by the parties from whom it ought to have been forthcoming, but from whom it did not come forth, for obvious reasons which need not be dilated upon here. It is, however, immaterial whether the commissioner of the *Sanitary Record* was a perfect stranger to Dublin or not; he has done his work, and done it well. We have given attention to his reports, for we have had a life-long knowledge of all, or nearly all, of the districts mentioned, the questions discussed, and the doings of our Corporation for the last quarter of a century and upwards.

It is no untruth to say that chronic neglect in sanitary matters has been the rule for long years. We are aware that our Corporation is not a wealthy one, but we are also aware that its resources have been systematically wasted. If a number of officials represent duty, and large and ever-increasing salaries represent efficiency, the municipal rule appertaining to this city ought to be, and should be, one of the best in the three kingdoms. Alas! it has been otherwise, and hence it was not difficult to produce a long indictment against our local misrulers. In the sanitary pictures drawn or presented by the *Sanitary Record* commissioner is contained an impeachment which, though it may be met and endeavoured to be explained away, cannot be rebutted by our Corporation. We ourselves have over and over again been accused by the friends and agents of our municipal body for wantonly attacking it, when for month after month and year after year we persistently and consistently pointed out the shortcomings of the Corporation in the matter of public improvements. The bad state of our streets, defective drainage or no drainage, uninhabitable dwellings, fever nests, defects in the water supply, the purification of the Liffey, and sundry and several other cognate questions, have been repeatedly discussed by us, and the subsidiary abuses growing out of them and surrounding them. Thousands and thousands of pounds have been shamefully wasted for years in parliamentary expenses, deputations, promoting and opposing bills, the half of which, if carefully husbanded and expended, would have left little room for the adverse but truthful pictures drawn by the commissioner of the *Sanitary Record*.

In view of what we have written recently and for years, there is no necessity for us to dilate just now on the questions indicated above. We owe our acknowledgments to the *Sanitary Record* for its kindly recognition of

our past services in the cause of Sanitary Reform in this city, and of our earnestness as to the future. The recognition of our contemporary and other professional journals across the Channel from time to time stands in marked contrast with the conduct of journals in our midst. We have not bartered our birthright or stained our sanitary advocacy by dragging it through the mire for a “mess of pottage” at the hands of the Corporation or any other public body or official. When our Corporation are in the right on any public question tending to the sanitary and social improvement of the people, we will be found at their side; but when they are in the wrong, we will tell them and their defenders so without mincing. The eleventh hour has passed; the time has indeed long arrived for the municipal body putting their shoulders to the wheel for the lifting of this unfortunate city out of a state of sanitary eclipse into a region of light and healthfulness.

THE HEALTH OF THE COUNTRY.

THE last quarterly return of the Registrar-general is more reassuring than previous ones. The total number of deaths is under the average for the third quarter of the year. Local outbreaks of two or three zymotic diseases occurred in different districts of the country, but they appear to have been confined to limited areas, and a general prevalence of fatal diseases is nowhere reported. There were registered in the last quarter in the 794 registration districts, 33,121 births—a number equal to an annual birth-rate of 24.9 in every 1,000 of the estimated population; and 18,631 deaths, representing an annual mortality of 14.0 per 1,000. In the same period it was ascertained by the enumerators at the different seaports that 10,501 persons emigrated. An apparent increase of 3,989 in the population has taken place, which is estimated to have been 5,321,618 in the middle of this year. The returns furnished by the Local Government Board show a considerable decrease in the number of workhouse inmates, and a corresponding increase in the number of persons receiving out-door relief, last quarter compared with the third quarter of 1875. Marriages are sometimes taken as an index of the state of the country when they show a great increase. The marriages registered in Ireland during the quarter ending the 30th of June last was 4,824, against an average of 5,108 for the corresponding quarter of the previous three years.

No doubt the decline in the fatality of preventable or controllable diseases is due to a large extent to the improvement in the sanitary state of the various districts; but the present return, as well as previous ones, show clearly (and it is to be regretted) that very much remains to be done, for in numerous places there is evidenced on the part of the people and even on the part of some of the local authorities a wanton neglect in the observance of the simplest hygienic laws. The following words from the Return repeats what we have over and over pointed out and preached for years as the direct causes of the evils which the country suffers under: “Bad drainage, imperfect water-supply, piling of manure in proximity to dwelling-houses, and refusal to isolate those suffering from infectious diseases—these are the evils to one or other of which the origin or the propagation

of zymotic diseases can in most cases be clearly traced, and for which the people, and it would appear in too many instances the local authorities, are responsible.” Of a verity it is.

We have not time or space on the present occasion to deal at length with the District Registrars’ notes, which reveal much that is sad throughout the country, yet withal several matters that bespeak improvement. In the Kells district 10 of the 38 deaths registered were caused by scarlatina, and the fatal cases are reported to have all occurred in the overcrowded and ill-ventilated houses with which the district abounds. The registrar of No. 4 Cork district states that several cases of typhus fever occurred at a place called Kerry Pike during the last quarter. The sanitary state of the village is deplorable, the houses are wretched, and are flanked front and rear with dung heaps and cesspools. In several other districts an exactly similar state of matters are reported to be existing. Nearly one hundred registrars report sanitary improvement, and bear evidence of the benefits arising from the enforcement of the sanitary laws. The registrar of the Rathmore district, Naas Union, who has more than once drawn attention to the water-supply of Kill and Killeel, now writes—“It is just two years since I first brought these matters under the notice of the sanitary authorities, and I have made five additional reports on the same subject. I am informed the attention of the board of guardians has been called to the subject by the Local Government Board.” The registrar of the Annacarriga district, Scariff Union, reports that typhoid and more recently typhus have appeared there. With manure in the yards and pigs in the houses, health is impossible at Scariff. There is an open sewer too in the locality in a bad state, but the sanitary authority refuse to have the evil remedied. They should be compelled to do so by the Local Government Board. There is a strange custom—a relic of old times—which still finds favour at Molahiffe, in the Killarney Union—“the dipping of infants in cold water to harden them”—a belief still held by the peasantry. The district registrar is of opinion it does harden the infants after a manner, as “I registered two or three this quarter, killed, I am sure, by the same thing.” The sanitary state of this district is, however, reported good. The sub-sanitary officer is also a process-server, and the peasantry are threatened with the law, which, in a sanitary direction, is reported to have a good effect; but the dipping of infants goes on nevertheless.

We find by the present Return that a number of centenarians have shuffled off their mortal coil. The deaths of eleven persons are stated to have been at 100 years or upwards. Three were returned at 100, one at 101, three at 103, three at 104, and one at 108. At Newtownhamilton, Castleblayney, one centenarian died who was a smoker all his life, and walked ten miles in one day six months previous to his death. At Glaslough, Monaghan, a female was registered at 108 years; she took her breakfast with relish, and was walking about the day of her death.

The registrars of Swords, in Balrothery Union; Tullow, in Carlow Union; and Kells, in Kells Union, call attention to alleged defects in the Public Health Act. Some of the defects complained of arise through red-tapeism. The sub-sanitary officer reports to the sanitary officer of the existence of

dangerous nuisance; the latter reports to the board of guardians; they meet perhaps within the week or the week after, and after a long debate the executive sanitary officer is instructed to write to the owner of the premises in which the nuisance exists. Death in the meantime may be making sad havoc, or fever and small-pox extending. Some of the guardians themselves may be the evil-doers, and of course interested in delaying all inquiry.

THE ARCHITECTURAL ASSOCIATION OF IRELAND.

THE opening meeting of the above association is announced to be held on Thursday evening next, at the rooms, 212 Great Brunswick-street. The inaugural address will be read by Mr. William Fogerty, president.

From the report of the association for the past session, which has been circulated amongst the members, we take the following passages:—

"The inaugural meeting of the last session was exceedingly well attended, and the committee believe gave much satisfaction both to the general body of members and to the numerous visitors who were present. The general meetings of the session have not been at all as well attended as they should have been, considering the real value and importance of the subjects discussed on those occasions. The falling-off in the attendance at the Classes of Design and Construction has been so marked, that the committee have thought it advisable to remove these meetings from the programme for this session. The session was brought to a close by an excursion of the members to the Seven Churches at Glendalough, to examine the excavations in progress under the superintendence of Mr. T. N. Deane. The members present have, the committee are pleased to add, expressed much gratification at the information and enjoyment derived from their trip. The association's prize for this year in the Class of Design has been awarded to Mr. George W. Miller. The committee hope more interest will be taken in the association this session by the general body of members, and that some modifications which they hope shortly to lay before them will have the effect of placing the association on a footing equal to that of the other art societies in Dublin."

The following papers are to be read at the monthly meetings during the session 1876-77:

Dec. 7—President's Address.

Jan. 4—"Artisan's Dwellings," by T. Drew.

Feb. 1—"Art Museums," by T. H. Longfield.

Mar. 1—"Architectural Sculpture," by J. J. O'Callaghan.

Apr. 5—"Building Materials, and their Uses," by F. Morley.

May 8—"The National Monuments of Ireland," by C. H. Brien.

June 7—Paper by W. M. Mitchell.

The following is the list of office-bearers for session 1876-77:—*President*—W. Fogerty. *Vice-President*—T. H. Longfield. *Committee*—H. C. Brett, C. H. Brien, Thomas Drew, W. J. Fennell, W. M. Mitchell, F. Morley, J. J. O'Callaghan, A. W. Robinson, J. L. Robinson. *Treasurer*—J. L. Robinson. *Hon. Secs.*—H. C. Brett, A. W. Robinson.

ARCHITECTURAL ASSOCIATION (LONDON).

A NOTICE of the first ordinary general meeting of this association, which was held on the 10th ult., was omitted in our last issue. We will now merely say that the annual report which was brought up and adopted was a very cheering one. The different classes—construction, design, &c.—were in good working order throughout the year. Donations were made to the literary fund and books to the library by several persons. The total income for the year was £496 16s. 9d.,

and the total expenditure £447 16s. 2d. The liabilities are only £45. Counting balance, assets, value of property, &c., there is in favour of the association £588 12s. The address of the president, Mr. H. C. Boyes, dealt with a number of professional topics from a professional point of view—the institute, competitions, the voluntary examinations, and architectural education. A discussion followed on the part of the members. At the meeting held on the 24th, a paper on "Binocular Perspective and Drawing" was read by Mr. A. Frere.

A CIVIC SIGHT—A MUDDY TOPIC!

A MORNING journal suggests that the scavenging staff—carts, brooms, scoops, shovels, &c.—should some morning be paraded in College-green. It would be well to have a photograph taken whilst they are on that memorable spot. Our contemporary, in announcing the certainty of the appointment of a "Scavenger-in-Chief," says—"If a proper man be appointed, the citizens may expect excellent results; but, otherwise, the new officer would only increase the public dissatisfaction and the public rates." It should be insisted "that no one shall be elected who is ashamed to take a shovel in hand himself [with kid gloves on, of course], to show how streets should be cleaned. Epaminondas was a street surveyor long ago, and he had Thebes the cleanest city in all Greece."

An advertisement for the new official might run thus:—

"Wanted, in haste, a Gutter Commissioner, Who knows how to oversee, scavenge, and swim; Either a North or a South side parishioner, A model man, civil and supple and slim. Canvass of members strictly prohibited. No foregone conclusions will be entertained. The Town Council have ever exhibited The character which they have always maintained."

The salary proposed for a "competent street surveyor" is only £350 per annum, with yearly increase of £10 (and, of course, a retiring pension of, say, £600 a-year).

EMPLOYERS AND WORKMEN— ENGLAND AND SCOTLAND.

At Leeds the master builders have received six months' notice of a demand for an advance of wages of the operative masons. The men ask that the wages be 86s. per week in summer; 83s. per week for the first month, 80s. for the second, and 88s. for the third month in winter.

The bricklayers in the same town have given a similar notice. They state they are satisfied with £1 15s. 5d. for fifty hours per week, but they demand walking time to work at certain distances; that no employer shall have over two apprentices at one time; that masters shall not sub-let; and that six months' notice of departure from these arrangements be given on either side.

At Darlington, the plumbers (who have been on strike for the past ten weeks) deny the statement made that their masters ever offered to leave the dispute to arbitration.

At Stockton-on-Tees, the bricklayers, following the example of their brethren at Newcastle-on-Tyne, have resolved to give their employers notice on the 7th of this month that they will require the wages to be 40s. per week in summer and 37s. in winter.

At Huddersfield, the masons have sent in a demand to the masters' association for an advance of wages to the extent of 4s. per week.

In the Staffordshire potteries several branches are disturbed over the wages question. The employers have given notice of a reduction of 10 per cent. in wages. The question is to be referred to arbitration, but the hands in some of the branches have resolved to resist the reduction, as they have already suffered a reduction of 20 to 25 per cent. in their wages in the last two years.

In several branches outside the building and cognate trades disputes are rife. The iron trade in Glasgow continues to improve.

Many collieries in the north of England are doing little work, and as we write we hear of a deputation appointed to wait upon the Home Secretary on the subject of cheap labour in prisons and reformatories.

ANENT A MONUMENT.

At a late meeting of the Dundalk Harbour Board the annexed letter was read from a Mr. James Marshall. The letter is sufficiently explanatory in itself. In view of other monuments a long time in hand, the letter may "point a moral and adorn a tale":—

Gentlemen,—Many years ago—I think about twenty-five—and in response to an appeal made by a committee then existing, I subscribed one or two guineas towards a fund then accumulating to erect a monument to commemorate the gallantry and humanity of the late Captain Kelly, who lost his life in an attempt to rescue a shipwrecked crew in Dundalk Bay. Upon making inquiry as to the result of the labours of the committee, I find that no practical attempt has been made to carry out the wishes of the subscribers to the fund, and that now after nearly a quarter of a century, the matter is abandoned. Permit me, therefore, to repeat a request which I had made about seven years since, that you will pay the small amount subscribed by me to the Royal National Lifeboat Institution, and please excuse me the folly of reposing confidence in gentlemen so utterly incapable of comprehending their duties and responsibilities, as the members of the committee seem to have been.

The Harbour Commissioners were silent on the head of this letter. Perhaps their silence may be taken to express consent with the desires of the writer.

A RATEPAYER'S REMONSTRANCE ON MUNICIPAL MUDDLE.

"A RATEPAYER" writes—

As most of your readers are aware, inhabitant householders are required by the police to sweep and clean the flagway and channel in front of their houses every morning. The municipal authorities, however, seem determined to frustrate the efforts of the few persons who seem disposed to conform to the police regulations. This morning about twelve o'clock an emissary of the Corporation, not so able or active-looking as the common scavenger, visited this street, and with the aid of a mechanical broom with very slow action, drawn by a horse, scattered the mud from the hollows with which the roadway abounds, and which afford ample storage, into the channels, and in some places on to the flagway, where very likely it can be seen at any hour to-morrow. Can any of your legal readers tell me what I should do in such a case? I should also like to be informed whether an action would lie against the Corporation for breaking a man's leg in one of the numerous "flag traps" which are to be found in many of our leading thoroughfares. Good examples may be seen in front of Leinster Lawn and on the east side of Stephen's Green. I advise the curious reader to try the effect on his clothing of treading on one of these traps on a wet day.

In the case of a scavenger who some time since acted in a similar manner at our premises, we gave him the option of at once removing the nuisance or of having a charge preferred against him for annoyance, &c. The mud was soon removed.

In London and other cities a number of scavengers with brooms are told off to follow the diagonal brush upon wheels, and as soon as the mud reaches the side channels it is speedily collected into heaps for removal.

THE DUBLIN GAS QUESTION.—After several meetings and discussions, expedited by public agitation, the Corporation resolved to offer the Gas Company a contract for the lighting of the public lamps for three years at 4s. 6d. per 1,000 cubic feet, private consumers to be supplied at the same, and the Corporation to pay 4s. 6d. per lamp for the maintenance and repair of the lamps; the price to be subject to revision by arbitration, which may be called for either by the Corporation or the Gas Company. This is advancing a little, but very little. We will have something to say on the agreement and surroundings anon.

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

In the minutes of the Town Council of Glasgow during the last two or three centuries occur several items of Irish interest. In relation to the year 1641-2—a period of great moment in our history—there are some Glasgow memorabilia worth bringing into notice. We query much if any of our native historians have at all hunted up Scotch records when treating of the history of the Great Rebellion of the North in the above-named year. Here is an entry from the Glasgow Town Council minutes of the 8th of December anent the transporting of men for Ireland. We give the extract in the original orthography:—"The said day my Lord Marquess of Argyll, exhibit in presens of the counsall ane commissiounes from the secreit counsall, anent the transporting of fyve thousand men to Irland, and provyd boatis and barkis for their transport. Efter reasoning it is thoctt fitting that the fraucht of ilk sojour be thretee shillings, and that ilk persone, boeth of sojourns and boatmen, have sex shillys in the day [Scots money] for victualls during the tyme they ar at sea, to be payt be the publick, and some proportioun to be advanced befor they goe aboard. To agree with sich boatis for transport that it may be lawful to thame to return back quhen they have dischargit thair companies at Irland, and that ilk boate to be hyred, be twentie foot of ground at least, and ilk slayer boate have twa straikis above, and ilk couper of ane, or mair as they sall think fitting; and that ilk boat be in readiness at ane port, within xlvijj. houris, as they sall be required, and that ilk boat get fraucht befor their away going, and the rest quhen thair cum to Irland; and that ilk boat quhen it cumis to the place quhare they ar taking in thair sojourns, the boatmen sall have thair paye daylie."

The close proximity of the north of Ireland to the west of Scotland led at different periods in times of trouble to immigration of the Irish to the latter country. During the Reformation era, and the changes that led to the establishment of the Presbyterian Church in Scotland, Scotch Lowland and Highland Catholics emigrated into Ireland; and again it may be noted that during the Rebellion of 1798, Catholics, Protestants, and Presbyterians to some considerable extent crossed over from Ulster to the west of Scotland, many of them pushing their way to Glasgow, Edinburgh, Dundee, and further north. An account of each exodus either way of the Irish and Scottish Gael would form an interesting chapter in the history of the Irish race. Here is a minute of the Glasgow Town Council for the year 1642:—"It is statut and ordainit in respect to the great increse of the poor, speciallie these that cum from Irland, that the thesaurer give the Mr. of the wark [the master or clerk of the works] twa hundred merkes, money to be gevin out be him to the use of the poor allanerlie, and thairefter to give his compt thairupon."

The great increase of the Irish element in Glasgow, Edinburgh, Dundee, and other towns and cities in Scotland during the last half century is a most suggestive and remarkable fact. In the first three named places the Irish population counts by several thousands. Those of the humbler or working-class ranks located in districts known as the "Irish quarter," but indeed Irish celt by birth, and those of the first and second generation born in Scotland may be found on every side of the cities named, and in all the chief towns in the east and west of Scotland. The writer many years ago found his countrymen in out-of-the-way nooks and places north, south, east, and west. Some were settlers of fifty years' standing, and others were the sons and grandsons of fathers who left Ireland at the close of the last and the beginning of the present century.

Combination on the part of skilled workmen received little mercy from the law in Dublin eighty years ago, or even in our own

memory. We read in our newspapers of 1794 of a number of carpenters being prosecuted for combination and assault, and later in the year they were acquitted of the combination and assault, but found guilty of the riot. The poor "chips" were sentenced to be imprisoned for six months, and to be bound to keep the peace for three years, themselves in a security of £100, and to find sureties for £50 each. At the same time there were thirty-five journeymen shoemakers arraigned under twelve different indictments, found on the acts of the 19th and 20th of George III., for "unlawful combination under the pretence of regulating trade." Of these "sons of Crispin," six only were tried on this occasion, three of whom were found guilty. They were sentenced by the court to a fine of £100 each, reducible at the court's discretion, according to their demeanour before the next commission. In October of the above year, Messrs. Sheriffs Manders and Powell paid a visit to a house in the historic Back-lane of this city, where a number of shoemakers had dined and were spending the evening. The doughty sheriffs took four of the cordwainers into custody, against whom charges of combination were preferred, and the captives were lodged in the new prison, Green-street.

The very severe laws formerly on the statute-book against combinations or strikes were in part swept away by the 5th and 6th of George IV. By the passing of these acts combinations among workmen to raise wages or limit the hours of labour were made legal, if unaccompanied by threats or violence; but if any attempts at intimidation or preventing masters from employing other workmen, or other workmen from taking employment at any they please, are illegal. Recent acts have given still more freedom to workmen, and recognises their right to "picket." The Criminal Law Amendment Act in relation to employers and workmen was a desirable measure for many reasons, but still the act is open to re-amendments.

There was a national celebration connected with the music of Ireland and its representatives held as far back as 1810, some memories of which are worth recalling. This celebration was held by the Belfast Harp Society of that day to do honour to the talent, worth, and services of Edward Bunting. While the name of Thomas Moore is upon all lips, 'tis seldom now-a-days that the name of the first is heard, yet Ireland owes more than it is ever likely to repay for the labours of Edward Bunting. He began his researches early in 1792, collecting some music as well as hunting up some performers for the harp meeting held in July in that year. In 1800 he published a collection of sixty airs of our old minstrelsy, with an appropriate introduction. From that time down to the time of the celebration in his honour in 1810 he continued his untiring and enthusiastic labours. About the last-named year he published his volume of Irish music which, considering the time, was brought out in excellent style. The entertainment to his honour in 1810 was held in Belfast at O'Neill's Hotel, when fifty gentlemen sat down to partake of the good things provided. The reports of the day tell us that Mr. Gilbert M'Ilveen occupied the chair, and Mr. William Steevenson was vice-president. A number of toasts and songs followed after the cloth was removed, among which were—"The memory of St. Patrick;" "The Memory of Carolan and other departed bards;" "Miss Brooke;" "Charles O'Connor, the antiquary;" "O'Halloran, the historian;" "O'Flaherty, the author of 'Ogygia';" "The Irish Harp;" "The Dublin Harp Society." Appropriate airs were played after several of the above toasts.

The chairman's address to the company on the occasion, and Edward Bunting's reply, are worth reproducing. The former was as follows:—"Gentlemen, previous to the toast I am about to propose, permit me to take the opportunity of expressing the sentiments which actuate myself and, I doubt not, all

those present. In proposing the health of the gentlemen to commemorate whose services we have now met, I cannot avoid publicly expressing, in my own name and that of the society in which I have the honour to preside, the sense of the obligations we owe him. For seventeen years actively engaged in rescuing from oblivion the few relics of our national music which have escaped the devastation of time, he has at length achieved what had often before been unsuccessfully attempted. From former failures we may appreciate the difficulties of the undertaking. From our own regrets for those strains which are now lost for ever, we may judge what is due to him who has preserved a part. By the publication of the ancient melodies of Ireland he has fixed an era in the history of its national music, and, lest writing should fail, he has also been the happy means of restoring the ancient mode of preserving it by a succession of Irish bards. Of this valuable trust we are the guardians and depositories—this is the origin of our society, and, lest it should droop, it is invigorated by a principle that must ever endear it to the hearts of Irishmen. If the love of our country be the end, the love of fellow-creatures is the means by which we attain it; for, be it remembered, and to the honour of the man from whom this society derives its origin be it spoken, that our existence is secured by being cemented by the sacred bond of charity. I could say much more did not the expression of my own feelings restrain you from giving vent to yours. Permit me, therefore, to propose the health of Mr. Edward Bunting, the reviver of the ancient music of our country,—and may his exertions be crowned with the success they merit."

It is needless to say that the health of Bunting was drunk with the greatest warmth "three times three," and this was his short and modest reply:—"Mr. President and Gentlemen—This testimony of your approbation and the highly flattering attention bestowed upon me this day amply repay my exertions in endeavouring to rescue from oblivion the relics of the national music of our country. Allow me to assure you they will not fail to make a lively and lasting impression on my heart." Bunting's few words were received with the greatest applause, and he finished by proposing the "Harp Society of Belfast"—a toast which was duly honoured. Several other toasts and songs followed.

During the evening, O'Neill, who was reputed then to be the oldest harper in Ireland, led into the room his twelve blind pupils, one of whom was a female named Miss Reilly. We learn that their entrance exhibited a scene peculiarly impressive. Miss Reilly and two of the youths strung their harps, and played a number of trios, duets, &c., which were greeted with great applause. It was said that on this occasion O'Neill, the venerable harper, "seemed to have renewed his youth, presenting an interesting picture of 'a bard of other times' surrounded by his Milesian brethren."

The Belfast Harp Society during its existence did useful labour. It supported a school where a number of young blind pupils were instructed to play the harp. Edward Bunting, as one of the members of the society, was indeed an able auxiliary. He travelled over the greater part of Ireland in his researches, visiting remote glens and mountains hunting up every waif and stray of the ancient music of Ireland. The simple, plaintive, as well as the joyous strains of bygone times were caught up from the mouths of the peasantry by Edward Bunting, and our people indeed owe him a more lasting memorial than speeches and entertainments in his honour during his lifetime, accounts of which are only to be found in long-forgotten magazines and newspapers. We know not if Belfast, in any of her institutions of to-day, possesses a picture or a bust of Edward Bunting; but this we do know, that the people of Ireland in *globo* should raise some creditable memorial to his honour and the perpetuation of his name.

H.

FAMILIAR CHAPTERS UPON
SCIENCE.*

NO I.—THE DISINTEGRATION OF ROCK.

What the Earth owes to it—Effects of Frost and Thaw—The Erosive Power of Running Water—The Sea, and its Agencies—Chemical Decomposition of Rock—Formation of new Land—The Earthquakes and the Volcano.

THE disintegration of rock forms a most interesting feature in geological study, and to its action we owe the production of the various soils which cover the surface of the globe, and the vegetation which clothes it. In the primary stages of the condition of the earth there could have been neither "flora nor fauna," as clay, sand, or mould did not exist until formed by the gradual or violent wearing away of rock. Therefore it is to this influence we are indebted for all the varieties of soil, and the different formations of deposited strata, which, although originally of igneous origin, now constitute by far the larger proportion of the mineral kingdom of the earth; and solely to this source also for all that is picturesque and beautiful in nature. For the primeval forest, the wooded upland, the depths of the tangled gorge, the jutting cliff and the fairy dell—the undulating surface of the grassy turf, the sylvan scene with its velvet sward, and the countless myriads of flowers in all their brilliant array of vivid and varied tints, which combine in producing the pleasure to be derived from the beauties and sublimities of a surrounding landscape. What does the little pebble you pick up on the sea shore tell you of?—the fragment of once, perhaps, a giant rock, borne, it may be, thousands of miles, embedded in a iceberg, to our shores, but now rounded by attrition during numberless years into its present form; or the piece of water-worn shale which you find in the tiny streamlet, and in which embedded is the impression of a fern, and you can almost imagine it as identical with existing species, or a sigillaria presenting a foreign aspect, yet both bearing evidence of their tropical growth in a former world. Without disintegration of rock, this earth would be a barren lifeless waste—a scene of fearful jagged acclivities and yawning chasms, such as the moon is now revealed to us by telescopic power, without a patch of verdure to relieve the eye, a rounded outline, or a single feature of interest except massive rock—twisted and contorted, it might be, into various shapes. How much then should we admire this benevolent ordination of the Author of our world's being! This destroying agency, created by Him for reproductive purposes, in the most extended and utilitarian signification of that term, is more particularly apparent in regions of perpetual frost. The tourist, in his first experience of Alpine travel, standing amid a world of glaciers, is astonished beyond measure in witnessing the wide-spread mineral ruin which surrounds him; stones of every form and size are flung around in the utmost conceivable variety of wild irregular profusion,—as in the early part of the summer season they are constantly toppling over into the mountain torrent, and hurled away unceasingly in its foaming waters, and, as the sun gains power, the phenomenon increases in proportion. But, after all, these are only feeble representations of what is occurring day after day in the glacier regions of Asia and America. †Water freezing in the interstices of rock and in its veins and pores, acts like so many innumerable wedges, separating it generally in giant masses, upon the occasion of the first thaw, and then into smaller fragments, until at length, falling asunder, they are borne away in the icy stream, and the rattling noise which they produce is often deafening as, hurled over cataract and fall, they are dashed to pieces, and split into a variety of shapes, particle by particle, as on and on continuously they are hurried, until finally they are nearly reduced to grit, only to be further decomposed by the numerous rills set in motion by the increasing warmth

of the summer sun. Thus they are converted into shingle, sand, and mud, either to form deltas and arable land at lower levels, or to be deposited in the bed of the ocean, and cover over the marine formations of past periods, only to be reproduced in future ages when upheaved again as rock.

The erosive power of water in producing disintegration of mineral matter is exemplified in rivers excavating their courses through rock, and arises from two causes—the one chemical, because springs emanating from limestone districts, and flowing into rivers are depositories of carbonic acid, and they will thus dissolve even silica, the hardest formation; the other is mechanical, as where falls occur, abrasion is in constant action, still this abrasion is considerably augmented by the chemical effect of the carbonic acid held in combination with the water.

We have it upon the authority of Lyell that the Falls of Niagara are receding at the rate of 14 yards annually, and it is to be supposed that all rivers in mountain districts, according to their volume, are in like proportion thus disintegrating the rock through which their courses lie. It will, therefore, be apparent that a large proportion of the earth's surface is continuously wearing away unnoticed before us.

The destructive power of the sea is well shown on the south-west and west coasts of Ireland, in the decomposition and in the excavation of its hardest rock. The Skellig Islands (the largest of which lies about 8 miles south of the nearest point of Valentia) are exposed to all the wild fury and foam of the Atlantic, by which they are worn away into giant pyramids. The greater Skellig is described in Lewis's "Topographical Dictionary of Ireland" as a stupendous mass of slate rock rising majestically from the sea, and at the height of 50 or 60 yards, dividing into two pyramidal summits, of which the larger has an elevation of 1,500 feet above high-water mark." At Ballybunion,* on the coast of Kerry, numerous caverns are eaten into the cliff-bound shore; one of these in particular runs a considerable distance inland, parallel to the coast line, through which are arched openings primarily formed by the surf excavating on and on, thus it has formed a passage which permits boats to pass from one to the other. Some of these caverns are fully 60 feet in height. On the same coast, close by, The Devil's Castle stands an enormous isolated pillar of rock resting upon a narrow base, and looking like a huge obelisk casting its shadow upon the waters which surround it. These examples are much out of the way of ordinary tourist travel, and are, therefore, little known. On a calm summer day the sail from Valentia Island to the greater Skellig is one of the most delightful of trips, an ever-varying panorama of sea and rock, the more beautiful because tinted by nature's hand, presenting itself throughout. The caves of Ballybunion are easily reached by car from the neighbouring town of Listowel, and, when the tide is at the full, accessible by boat without difficulty.

At Milfown Malbay, in Clare, similar appearances present themselves: one of these the well-known Puffing Hole—an extraordinary freak of nature, where the tide is driven through a cavern worn by the action of the surf, until at length it has obtained an outlet upwards, producing a beautiful fall, reflecting, when the sun shines, the shades of the many-tinted iris. On the coast of Mayo innumerable caves are to be seen, some of them stretching hundreds of yards under the superincumbent rocks. On the east and south coasts of England the sea is constantly

wearing away its cliffs, but nowhere in the British Islands is its decomposing power so well exemplified as in the Orkneys and Shetlands, for there innumerable gigantic masses of rock are perfectly isolated from each other, still showing they once formed a continuous mass, and looking in their desolation like weird spectres, sometimes likened to a small fleet at sea,* as standing out in bold relief mere skeletons detached in shreds and patches they seem still striving vainly to oppose themselves to the fury of the ocean.

But nature has adopted other and less violent means for the disintegration of rock; these are exclusively chemical, but are equally effective as destroying agencies. There are many rocks which contain metallic veins, properly called sulphurets, which, by the gradual absorption of oxygen from the atmosphere, are converted into sulphates, and which are not alone soluble in water as we often see by the discoloration of mountain springs, but many of them when exposed to the atmosphere absorb moisture to a considerable extent; these, as a matter of course, become speedily decomposed. For example—Felspar, one of the constituent parts of granite, being a silicate of alumina and potash (which latter has a considerable tendency to absorb water), is thus easily disintegrated; so also are all the rocks which contain silicates of alkaline bases,—even quartz, one of the hardest formations, is sensibly affected by water holding carbonic acid. Where iron exists, decomposition must be in action so soon as ever the stone is subjected to atmospheric influence; therefore it is not surprising that both igneous matter and deposited strata holding metallic substances in combination are gradually and constantly wearing away from the oxidization of their constituent parts.

But the Author of the universe has not made laws for its government which contain within themselves elements of destruction, without ordaining corresponding compensating power; these have been from the beginning, and will be, according to our necessarily limited experiences of the past, continuous throughout time; for, although the agencies we have described are ceaseless, renovation is co-existent and simultaneous with their progress. New continents and new islands are forming themselves in the bed of the ocean, but to be upraised in future conditions of the earth. Where the shore line is decreasing upon some coasts, it is increasing upon others. Before our eyes the innumerable class of zoophytes are building up land in coral formation from the depths of the ocean, something akin to the chalk and oolite structure of former periods. Volcanic action is elevating it in different quarters of the globe; but man's little term here upon this earth comparatively with its existence, has scarcely yet unfolded to him all the unchangeable perfection of the works of his Maker. There is no such thing as destruction, properly so called, existent,—renovation and regeneration are unceasing upon the surface of our planet, so that it may be fairly said it is in the enjoyment of perpetual youth.

From all this it would be apparent the earth is in constant state of change, ever renewing itself by the most ordinary and familiar operations of nature, either by the intense cold of the Arctic regions alternating tardily with the remote gleam of a short summer sun as it floats the iceberg into warmer latitudes, or as it splits up rock to be borne down upon numerous streams but to be reduced to sand and mud; or in the more temperate climates by the sunshine and the shower, with occasional paroxysms of storm accompanied by pelting driving rain acting in conjunction with its chemical allies; or the earthquake and the volcano with its desolating power while in action, and then in its periods of repose when new soil forms upon its streams of lava, or over its accumulated depths of scorice and ashes which have destroyed all traces of long-lost peoples, their

* By William Hughes, author of "Geological Notes of Ireland." Dublin: M. H. Gill and Son; W. H. Smith and Son. 1876.

† Fownden's "Chemistry."

* One of the indentations of the cliffs of Ballybunion is called Smugglers' Bay, and from a little volume published by William Ainsworth, Esq., in 1834, we extract the following:—

"The cliffs of Ballybunion are even less remarkable for their dimensions than they are for the singular form of rocks, which seem as if carved by the hand of man, and independently of the lofty mural precipices whose angular proportions present every variety of arrangement, as in Smugglers' Bay, where they oftentimes are semicircularly arranged like the ground-work of an arch, or the tablets or small strings running round a window, or are piled above one another in regular succession, presenting a geological phenomenon of great grandeur and magnificence."

* Milner's "Gallery of Geography."

† The hills of Devon and the mountains of Derbyshire are principally of coral formation.

arts and industries, or it may be the huts of the more savage denizens of the earth, or the temples and palaces of the most refined colonists of their age, only to be discovered by accident after the lapse of many centuries, as the latter have been in Pompeii and Herculaneum.*

Much more might be written upon, and more numerous examples given of, the disintegration of rock, but enough has been shown to prove that very many agencies are in action for this purpose. We have described the mechanical forces which produce it, from our own observation, assisted by the authorities quoted; but the chemical causes adduced are derived from Fowndes's "Chemistry," London, 1872, as well as from other standard authors, but to the first of which we acknowledge ourselves principally indebted.

INSTITUTE OF THE ARCHITECTS OF IRELAND.

THE opening meeting of the session 1876-77 was held on Thursday evening, 16th ult. The report of council and statement of receipts and expenditure for past session were read, and the council and officers for the ensuing year elected. The following is the report submitted:—

REPORT FOR SESSION 1875-76.

On behalf of the out-going council I have to submit the following brief statement of the affairs of the Institute during the past session. The council met on nine occasions, with satisfactory attendances, as shown by the balloting slips before you this evening. It has, however, been found undesirable to maintain the ordinary monthly general meetings of the Institute, owing to the lack of attendance caused to some extent by many elementary papers hitherto read at them being now delivered to the Architectural Association, and also to the fact that since its formation it has absorbed a large number of the class usually supplying students and associates to the Institute, to whom, and for whom chiefly, the papers were formerly prepared and delivered. Thus, though there is cause for regret that our interests have been disunited and mutually weakened, yet, thanks to the management of the association, our juniors have sustained no real loss; emulation has been stirred up, and art-education, and friendly discussion have been carried on as formerly, but through a different channel. No rupture has divided us, and this evening we meet with representatives from the association amongst us inviting co-operation for our mutual welfare.

The council have been requested to consider the desirability of re-arranging the meetings of the Institute, and they have as yet been unable to make any definite suggestions in the matter; but the question has been duly noted for the consideration of their successors.

They have also to inform you that steps have been taken to obtain representation of "Architecture" in the governing body of the proposed Art Museum, and space for a suitable collection and library in the building.

It will be remembered that some years ago a draft building act, founded on the best examples then in existence, for the regulation of buildings in Dublin, was prepared by the Institute and submitted to the Corporation at their request, but was afterwards abandoned by that body. We have again had this matter under consideration at the request of the British Institute, to whom we have submitted our views as to necessary general clauses. Your hon. secretary having, at request of council, conferred with the City of London

Metropolitan Board of Works' officers on the subject, the last draft bill submitted by Metropolitan Board to Parliament was, with great labour, noted, altered, and adapted to our requirements in this city, by Mr. J. H. Owen; and, being approved of, has been in the hands of our civic authorities for some months; and we have Mr. Neville's assurance that they really mean to do something. The Chief Secretary for Ireland and the Local Government Board have also been communicated with, and we have well-grounded hopes that the question will be dealt with on a broad basis by Government, and that regulations will be framed having force throughout the kingdom. We may also add that the views of council on this matter have been carefully prepared by a sub-committee, and presented for the favourable consideration of the special Local Government Board Commission now sitting.

Messrs. Drew and Carroll took part in the late Architectural Conference in London, and will be happy, on part of council, to give information on any of the many subjects then under consideration.

There have been two additions to the ranks of the Institute during the past session—both in the class of associate.

In conclusion, the council regret that, through ill health, your president has been and is unable to take the active part in your affairs that he would wish; and it is with reluctance, but under a sense of duty, they again call attention to the large amount of subscriptions in arrear, as they feel that you will be compelled to remove from the lists a considerable number of members, should the circular now out be without effect.

G. C. HENDERSON, Hon. Sec.

The following were duly elected as office-bearers for session 1876-77:—*President*—J. M'Curdy. *Vice-Presidents*—Sir C. Lanyon, R.H.A.; J. H. Owen, M.A., R.H.A.; S. Symes, C. Geoghegan, Thomas Drew, R.H.A. *Ordinary Members of Council*—G. C. Ashlin, F. V. Clarendon, A.B.; J. R. Carroll, W. S. Cox, F. Franklin, W. M. Mitchell, P. Neville, C.E.; J. J. O'Callaghan, H. Smyth, C.E.; W. Stirling. *Treasurer*—Sandham Symes, V.P. *Hon. Secretary*—G. C. Henderson. *Auditors*—R. Barney, J. L. Robinson.

INSTITUTE OF BRITISH ARCHITECTS.

PRESIDENT'S ADDRESS.

(Concluded from page 327.)

In combating all the difficulties and discouragements to the prosecution of our noble profession to which I have alluded (though, perhaps, at too great length for your patience, not in undue reference to their importance), I think we have a power in this Institute, if only we will use it with united effort and all our might, that can do good to the public and ourselves. Already, amongst ourselves, the Institute has done, and is doing, a good work,—setting up a standard of professional purity; endeavouring to number in its ranks the best men of all countries; promoting good fellowship among professional rivals; endeavouring to compose differences when they arise; preserving some supervision over the buildings of the empire, whether modern or centuries old, in which we all feel pride; promoting study of the works of past architects by affording the use of our really fine library to our members, and in a variety of other ways; while to the Government and the public it is ready, in its corporate capacity, to be of real use whenever requested, and to devote time and ability of the highest order attainable to make our public works and public buildings creditable to their age, not only scientifically and constructionally, but so that they may be "a joy for ever" to those who come after. In some very few cases this aid has been asked, and has, I think, been efficiently rendered; but I could wish to see the profession, through this Institute, deemed by our public authorities a body whose opinion and advice it was

felt necessary to ask for on all artistic or social questions involving the construction or æsthetic treatment of our public buildings or public improvements; and, further, that such opinion and advice, when obtained, should be deemed of sufficient value to abide by. I cannot avoid noting an illustration of what I have said by referring to several points in which one of the finest works of our times makes an architect sad,—I mean the Thames Embankment; and I have only to call your attention to the indirect approach to the Clock Tower, the neglect and partial burial of York-gate, the absence of any attempt to connect the river front of Somerset House with the new Embankment road, the like absence of adaption of the land arches of the bridges spanning the road to their new position, the omission of the once proposed new direct street to St. Paul's Cathedral, and other minor matters, to justify my remarks. Noble work as it is as a whole, in all the above and other matters it cannot be considered, æsthetically, so satisfactory as it might have been; and I do not hesitate to say that, in no other country than England would such a public work have been executed except with the assistance of an architectural public body like our own asked for officially and carefully attended to.

Did English architects take the position which they should do, and, I assert, could do, with credit to themselves and advantage to their clients, were they better understood and the value of their services better felt, we should not hear, as unhappily we often do now, the theory ventilated that Government and public bodies will do better to carry out works of more or less national importance under the sole direction of gentlemen connected with them as permanent officers, under the imposing appellation of "the Department," or "the Board," but whose salaries, being permanent, and leading to a life pension, are necessarily on so moderate a scale that their positions can only be acceptable to second or third rate men, whose training and antecedents cannot have fitted them to discharge the functions of true architects, and who would themselves be the first to confess that while they were under the necessity of doing any service their principals may require of them, they frequently feel their own incompetence to fulfil those services in the best way, and would gladly be relieved (and, indeed, have a right to be relieved, on grounds of public policy) from dealing with buildings where the best art and the most trained intelligence should be employed, for the credit as well as the art instruction of that public who finds the funds.

That there is an increasing desire on the part of the general public to see our great city take more creditable rank than heretofore architecturally among the capital cities of the world is, I think, clear, from the treatment of the buildings erected in the past few years along our new lines of thoroughfare. We need not wonder at this when we call to mind that in the history of the world, as regards architecture (especially civil and municipal architecture), its development was always mainly connected with the great centres of trade and commerce, as, for instance, in the Low Countries, and in Italy, when its republics were traders, and most active traders, too. So, too, it was in our own country in past times. Witness the fragments, alas! now very few, that remain, showing the magnificence and love of art of our English merchant princes in the adornment of their residences in the city of London itself. Shall it not be so now in the present and our immediate future? Surely it only needs a race of architects worthy to direct the public taste, and, above all, it needs better artistic education among our traders and the public in general to appreciate really good work. I think, therefore, that Lord Mayor Cotton, at our recent Conference dinner, was not unjustified in the pardonable pride with which he referred to what, not only the City, but metropolitan London, has done in past and present times, and when he expressed some bright hopes for the future.

* The mounds of Assyria—which in the early summer teem with verdure and flowers of countless hues, hiding away all traces of the ruins of Nineveh and Babylon, and looking like hill and dale of ordinary landscape—are graphically described by Layard as studded profusely with "the myrtle, the ilex, and the oleander" in their richest foliage, and flourishing luxuriantly in the soil which has accumulated during the lapse of centuries over the earliest cities of the human race, are not perhaps strictly applicable to our subject, except so far as evidencing the wonderful renovating powers constantly in action on this earth.

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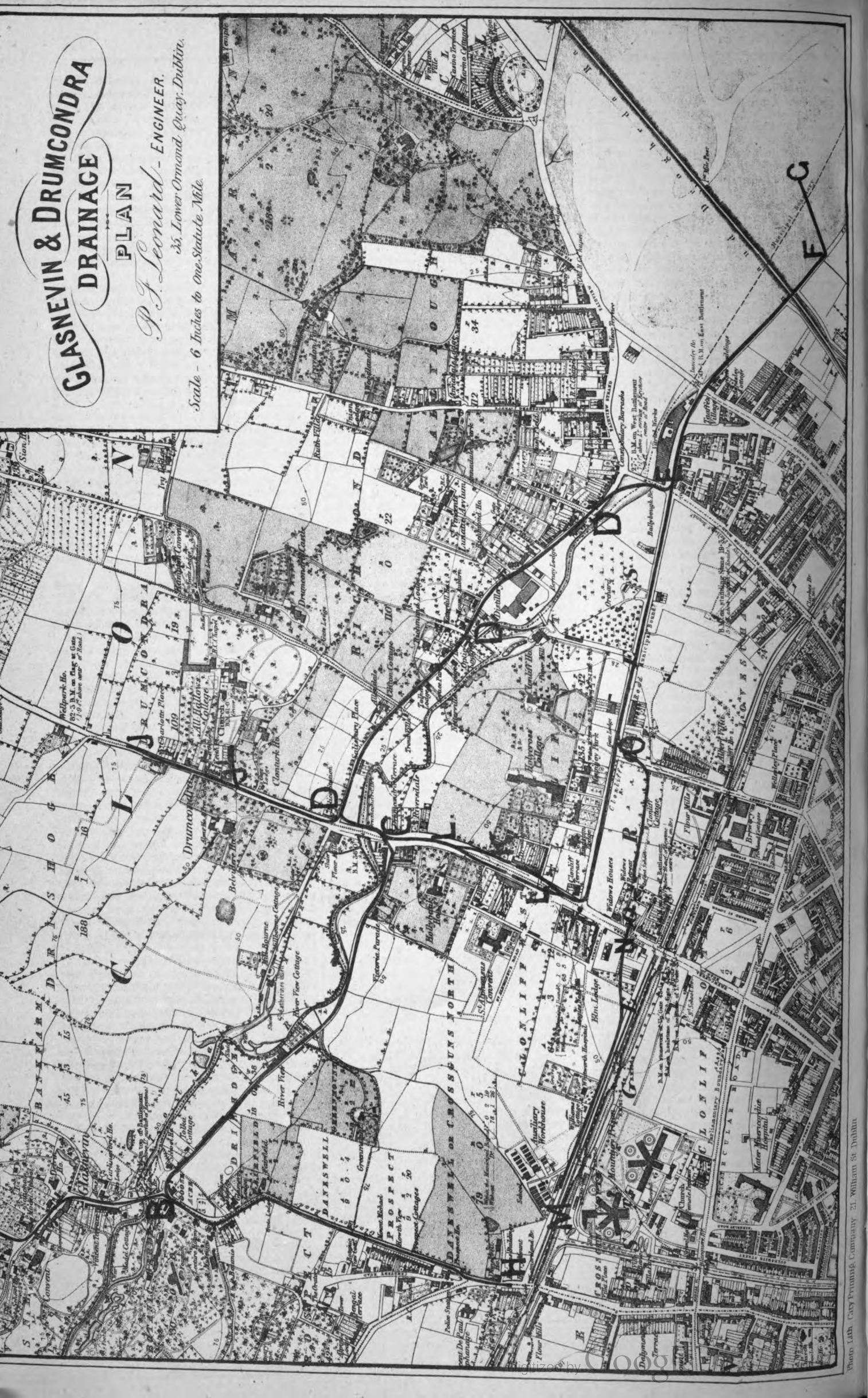
GLASNEVIN & DRUMCONDRA DRAINAGE

PLAN

P. J. Leonard - ENGINEER.

35, Lower Ormond Quay, Dublin.

Scale - 6 Inches to One Statute Mile.



Though, alas! we frequently find work in our streets of the lowest class of taste, and executed by evidently incompetent hands, we happily are able to find there also works of which no country need be ashamed. We may assume, then, that the public have a craving for something beyond the mere utilitarian brick fronts of 100 years ago. They are ready to have that craving directed into a right channel; and what would be more likely to induce a rich merchant, who proposed to occupy some conspicuous site in London, to do so creditably, than to have the evidence before him that those holding the highest official positions in the country recognised the duty, to their own and future generations, of leaving monuments behind them, the creations of, at any rate, the best architects of the day, instead of unknown and unjustified pretenders to that name, or of those who know that their names will not be handed down to posterity because they work for a Department, and who, therefore, miss the strongest incentive an artist can have to animate him to his best efforts?

You are aware that ere long a report may be expected on the scope, functions, and future action of the Institute, from a Special Committee of the Council and Past-Presidents and Vice-Presidents. I know the anxious care and the expenditure of valuable time that have been given by its members to what, I may truly say, will be the most important report ever placed before the Institute. I shall not of course forestall their special recommendations, but I venture to hope and believe that such recommendations will have for one of their main objects the realisation of the views I have expressed in this address. It has been frequently suggested that the members of the Institute should be distinguished by some diploma. Now you all know the difficulties in the way of this; some are real, some may be fanciful. For my part, I think such documents of little value, and that they are not often duly understood by the public, while the modesty of their possessors frequently prevents them being even known of. Whether, however, any such diploma is ever instituted or not, I would cut the knot of the difficulty at once, by an effort to enrol among our members all men of talent in the British Empire, members who shall invariably uphold the honour and purity of the profession. The real diploma would then be *position in this Institute*, and if it can only be felt among us that to enter this Society, and gradually though surely to attain, and when attained to retain, a seat on the Council, was a thing to be coveted, the blue riband as it were of our profession, we shall have done much. When the youngest member among us shall feel, without envy, that in the honour of the older members he and all the members are honoured too, and when the older members who may thus have been placed on its Council shall think it well worth the labour of a life to have attained that honour, then depend upon it the public will give us honour and confidence too, and self-respect among ourselves will be the surest guarantee of respect from without.

It is the wish (one in which I cordially join) that our Institute should be as its name imports, "The Royal Institute of British Architects," not as it now too much is "of Metropolitan Architects." Of course, we cannot shut our eyes to the tendency of many of the most distinguished among provincial architects to gravitate to London, and therefore acquire the latter designation; but it is also true, as many of us know, that there are at least as many architects who, from family or other reasons, do not choose to emigrate, and whose talent and originality displayed in works for our great provincial cities and in different parts of the country may put many of us to shame. Now I wish those men also to feel it an honour, I had almost said a necessity, to belong to us as the national representative body of their art. I believe but little inducement is needed to lead them to take this view; they are for the most part already loyally attached to this

Institute, and only need to be shown how they can work with us more fully. These architects are always members,—and respected members,—of architectural societies in their own localities, and one suggestion I would venture to make to those local societies is, that it should become a yearly custom with each of them to ascertain which of their members wish to join us, or who really ought from their local distinction to do so. I believe few years would pass without some honourable additions being made to our body from all parts of the country. The same action might even be extended to those countries among our colonies or the United States where the English tongue is spoken and English architecture is more or less taken as a basis for the designs of their buildings; and I may here allude to the evidence we had at the last Conference that our provincial and foreign brethren do think a personal communication from time to time with their metropolitan brethren a sufficient inducement to sacrifice time and money to come to us in London. It was no small pleasure to me (then new to the office in which you have placed me) to welcome a larger attendance at the Conference meetings and at the concluding dinner than there had been at any previous Conference, and it is quite unnecessary to dilate on the benefits to us all that such meetings confer.

Lastly, if my hopes should ever be realised and the Institute made personally strong, I cannot doubt that it would also be strong financially, and we may then be able to carry out those artistic and other developments of which we can only dream at present. We may be able to grant travelling exhibitions, accompanied by medals, of which the gainers shall be proud all their lives. We may largely extend our library till it is the most perfect professional library in the world.* We might possibly be able to initiate and conduct an annual exhibition of the works of architecture, truly a national one, and altogether beyond the feeble annual display of the architectural room in the Royal Academy. We might even have a permanent gallery of drawings given by our members or distinguished foreign architects of their most important works, and thus form a series of which the historical no less than the practical use would be great. We might some day (I hope that may not be very distant) be housed in premises of our own. Our brethren the civil engineers have done this, and having provided for a very large expenditure in doing it, have now means, did they wish it, to do it over again. I am aware that I have been saying few, if any, new things, and only repeating the wishes and hopes of those who have gone before me; but as few good and great objects have ever been realised except by perseveringly keeping them in view, so I hope I have not wasted your time in recapitulating them,—that we shall not give up our objects in despair, but only see in every delay and every obstacle a reason for that dogged persistence which is said to be characteristic of Englishmen, and which in the end is almost sure to secure success.

NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.†

We find in the theatrical season that opened in October, 1744, Sheridan began his management well by judicious selections. After a few weeks' playing with a fair success, Miss Bellamy was brought out in Aungier-street, in November, in "Monimia." Spranger Barry personated Castalio; Mr. Lacy, Polydore; and Chamont, Mr. Sheridan. Miss Bellamy, a young and promising actress at the time, acquitted herself to the satisfaction of all. In the second part she played Desdemona to the Othello of Sheridan. Considerable tact was evidenced by the new manager in reserving his best performers until the novelty of the less brilliant had abated.

* The library of the Institute now contains about 2,000 volumes.
† See ante.

Garrick made his first appearance this season at Smock-alley on December 9th, in the character of Hamlet, Mrs. Furnival as Queen, and Mrs. Storer as Ophelia. It is needless to say Garrick's re-appearance was hailed with the greatest enthusiasm, and his acting added greatly to his reputation in the eyes of Dublin playgoers. Too much praise cannot, however, be given to Sheridan for the manner in which he cast the several pieces presented in the Dublin theatres at this period. When it is seen that such actors and actresses as Garrick, Barry, Bellamy, Furnival, and Sheridan himself appeared in the one piece, nothing less than a theatrical feast could result.

Sheridan did his very best to place Garrick in an advantageous position before Dublin audiences, and exhibited a rare self-denial in doing so. Capital characters were played alternately by each, and both Sheridan and Garrick agreed to play Iago to Barry's Othello. It would be well for the drama in these times if there was such a mutual spirit of good-will exhibited between actors of the first and second order.

The tragedy of "The Fair Penitent" exhibited a strong caste—Lothario, Mr. Garrick; Horatio, Mr. Sheridan; Altamont, Mr. Barry. In this piece on this occasion we learn that Barry played his character so finely as to make it appear equally respectable with the two preceding characters. The other strong casts were—Sciolto, Mr. Beamsley; Calista, Mrs. Furnival; and Lavinia, Miss Bellamy. In "The Orphan" Mr. Garrick acted Chamont; Barry, Castalio; Beamsley, Arcasto; Sheridan, Polydore; and Bellamy, Monimia.

During this winter season Garrick played the following characters in Dublin: Hamlet, Richard, Bayes, Archer, Luthario, Macbeth, Bastard in King John, Sir John Brute, School Boy, Chamont, Orestes, Othello, Iago, Hastings, and Sharp in his own farce of the "Lying Valet." This was an extensive round of characters for one actor on the Dublin Stage in 1744. The two last-named characters were played by Garrick for his own benefit, and in connection with them it may be here added that it was the last appearance of the great English actor on the Irish stage.

Writing of this period, the author of the "View of the Irish Stage," says:—"Never did the drama experience so sudden a transition as from the last to the present season. The winter before was all disgrace, poverty, and empty benches, whilst ruin and desolation reigned triumphant. Now order came smiling forward, and in her train followed peace, plenty, honour, and public esteem. The nobleman, and man of fashion, the sons of science, the grave citizen, and the modest fair, long banished from the theatre, now with pleasure enjoyed once more their favourite rational amusement." The Lord Lieutenant at this time in Dublin was the noted Chesterfield—he of the famous "Letters to his Son," and by whom the "Phoenix Pillar" was erected in our magnificent park in 1745. Chesterfield was a playgoer, had the reputation of being witty, but he was too good at promises and bad in their performance when it touched his personal purse. The viceroy attended often at the Dublin theatres, and frequently ordered plays. Then as well as now a "command night" brought a good house, for those who would not go on other occasions were sure to attend when the viceroy was announced.

Davies, in his "Life of Garrick," observes of Chesterfield at this period:—"Though he was very gracious to Mr. Sheridan, and admitted his visits to the Castle, he took not the least notice of Mr. Garrick; nay, when they both waited on him with candles on the night of Mr. Garrick's benefit, he spoke very kindly to Mr. Sheridan, but did not return the salute of the other," and Davies adds:—"It seems his lordship when in Ireland, had a mind to convince the people of that kingdom that his heart was entirely Irish." His heart, indeed! It would be difficult to say if Chesterfield's kindly words ever represented

the kindness of heart that he meant to convey. His expressions were full of subtlety; he could preach well, but, alas! his practices did little for literary genius, however brilliant, when in sore need for practical patronage and assistance.

Hitchcock writes truly when he says "It must be confessed, Lord Chesterfield often practised the duplicity he so strongly recommended to his son. An instance occurs in the present case. When in Dublin he professed the highest esteem for Mr. Sheridan, and gave every encouragement to his plan of forming an academy to teach oratory; and on his departure, he made use of these expressive words.—'Never let the thoughts of your oratorical institution go out of your mind.' Yet a few years afterwards, when Mr. Sheridan waited upon him in London to fulfil his promise, that celebrated patron of genius, the witty, the generous, the liberal-minded Earl of Chesterfield, bountifully presented him with a *guinea*, as his contribution towards one of the noblest plans devised by human wisdom." Phillip Dormer Stanhope managed throughout his life, or a portion of it, to appear as the friend of Addison, Arbuthnot, Pope, Swift, Gay, Voltaire, and Montesquieu; but his treatment of Dr. Johnson, Sheridan, and others who stood in need of his practical support does not redound much to his honour or liberality.

Garrick had no share in the management of the Dublin theatre, as is asserted by Davies in his life of the great actor; but he had a share in the profits, as has already been stated. Garrick left Dublin fully satisfied with his reception, and spoke in high terms of Sheridan's honourable conduct. Both in Dublin and London also, Garrick testified to the growing merit that distinguished Barry's performances, and stated that in the character of a lover he was the best that he had ever witnessed on any stage.

The month of May, 1746, concluded Mr. Sheridan's first season of management, and shortly before Garrick and Victor returned to London, the latter gentleman liking his reception so well that he returned the next season, and was made deputy-manager and treasurer to Sheridan. Lacy, on his return to London, engaged Barry at a considerable salary for Drury-lane; and here our young Irish actor drew crowded houses and fashionable audiences. Gentlemen who liked to know how to woo with effect, and ladies of "quality" who desired to be won and wed with promptitude, gallantry, and melting tenderness, were desirous of witnessing the passionate personations of Spranger Barry.

As we have already arrived at that portion of our Notes forming a connecting link between the early and later history of the Irish Stage, we must again and again anticipate events in connection with the lives of performers. Here, then, we will introduce the opinions of his contemporaries and others in relation to Spranger Barry. Davies, in his "Life of Garrick," writes:—"Of all tragic actors who trod the English stage for these last fifty years, Mr. Barry was unquestionably the most pleasing. Since Booth and Wilkes, no actor had shown the public a just idea of the hero or the lover; Barry gave dignity to the one and passion to the other. In his person he was tall, without awkwardness; in his countenance he was handsome, with effeminacy; in his uttering of passion, the language of nature alone was communicated to the feelings of his audience. If any player deserved the character of an unique, he certainly had just claim to it. Many of the principal characters in our best plays must now be either suffered to lie dormant until another genius like him shall rouse them into life and spirit, or the public must be content to see them imperfectly represented."

C. Dibdin writes:—"An actor of most extraordinary merit, which was confined, however, to tragedy and serious parts in comedies. In some respects it is questionable whether he did not excel every actor on the stage. There were scenes and situations full of tender woe and domestic softness to which his voice, which was mellifluous to

wonder, lent astonishing assistance. In scenes of an opposite description he threw a majesty and grandeur into his acting which gave it a most noble degree of elevation. These peculiar qualities, which he possessed to a very striking degree, were greatly manifested in the tender conflicts of the heart-wounded Othello, and the haughty ravings of the high-minded Bagazet; and they were exquisitely blended in the fond but kingly Alexander; but certainly beyond these requisites Barry's acting did not extend in any eminent degree."

The extent of his powers, as above indicated, were even sufficient to stamp him as a great original actor. Colley Cibber—who, it is said, never praised anybody—praised Barry. John O'Keeffe, in his personal "Recollections," has good words of his countryman, and speaks of Barry as the first actor in his walk that has appeared on the English stage. Donaldson, in his "Recollections," writes:—"The splendid paintings and engravings extant of bygone actors give the present generation an idea of how such gifted sons of Thespis looked; but how the finest of them all, the *beau idéal* as an Othello and Romeo—Barry—escaped the notice of the artist is inconceivable, for we have not a likeness of this elegant and accomplished actor in existence." Perhaps one will turn up some day or other from some private collection.

Leslie, in his "Life of Reynolds," in speaking of Barry's last appearance in 1776, thirty years subsequent to the period when he appeared in conjunction with Garrick and Sheridan on the Dublin boards, observes:—"On his last appearance he was so infirm that before the curtain rose it was thought he could not support himself through the play; but in spite of decay, he played Jaffier with such a glow of love and tenderness, and such a heroic passion as thrilled the theatre, and spread even to the actors on the stage with him, though he was almost insensible when after the fall of the curtain, he was led back to the green-room. There was, we are told, in Barry's whole person such a noble air of command, such elegance in his action, such regularity and impressiveness in his features, in his voice such resources of melody, strength, and tenderness, that the greatest parliamentary orators used to study his acting for the charm of its stately grace and the secret of its pathos." Fox said that Barry's Romeo was superior to Garrick's. Arthur Murphy, who was an actor, dramatic author, and finally a barrister and commissioner of bankrupts, thus sings of Barry—

"Harmonious Barry! with what varied art
His grief, rage, tenderness assailed the heart;
Of plaintive Otway, now no more the boast,
And Shakespeare grieves for his *Othello* lost."

Mr. Percy Fitzgerald, in his "Life of Garrick," speaks discriminately of Barry's abilities, showing fairly, on the testimony of his predecessors, in which parts Barry excelled Garrick, and in which others fell below him. Churchill, who pitched in antagonistically on almost all sides with some very just pictures and many very unjust ones, thus portrays Barry:—

"What men, like Barry, with such pains can err
In elocution, action, character?
What man could give, if Barry were not here,
Such well-applauded tenderness to *Leary*?
Who else could speak so very, very fine,
That sense may kindly end with every line?"

We have quoted enough perhaps to afford a fair estimate of the abilities of Spranger Barry, and to prove that neither on the threshold of his career nor when the curtain fell upon his last performance was his exact power over-estimated. What was anticipated for him as an actor he fulfilled, strengthened, and maintained through all his waywardness. Folly and want of prudence may have worked him ill, but while he was able to act, genius was personated on the stage.

ST. FINBARR'S, CORK.—We learn that it is proposed to erect in St. Finbarr's Cathedral, Cork, a bishop's throne, as a testimonial to the present bishop, Dr. Gregg. The cost is estimated at about £500.

CORRESPONDENCE.

THE NEW EAST BRIDGE OVER THE LIFFEY.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—It is difficult to understand the apathy of the citizens in the matter of the new bridge proposed to be erected across the Liffey so as to connect Beresford-place with White's-lane. The site has been sanctioned by the ruling powers, but it remains to be seen whether public opinion is not strong enough to cause a re-consideration of a matter which involves an annual tax over a large area for such a long period as 60 years. There can be no doubt as to the necessity for a bridge eastward of Carlisle Bridge, and those most conversant *practically* with the requirements of the traffic can have, I think, but one opinion, namely, that the proposed site is about the worst and most unsuitable that could have been selected.

At present the harbour accommodation is extending eastward, and it follows, as a matter of course, that the bridge accommodation should be as close as possible to the principal deep-water berths in the river, to allow of the goods imported being transferred as rapidly and as cheaply as possible to the points of the city and suburbs at which they are required. It must also be conceded that such a bridge should be erected at a place which would interfere to the smallest possible extent with the traffic on the river. Bearing these points in mind, and giving to each its full weight, there can be very little doubt, I think, but that the new bridge should be erected to connect Commons-street, the Custom House Docks, and North Wall, on the north side, with Creighton-street, Sir John's-quay, City-quay, and Brunswick-street, on the south side, as suggested by Mr. O'Hara in your paper recently, and also by me in the daily papers some months ago.

A bridge in this position could be made use of to connect the Dublin and Wicklow Railway with the Great Northern, and with the branches of all the other lines at the North Wall. At present the Dublin, Wicklow, and Wexford Railway, and the Great Northern Railway are on about the same high level, and there would not be any difficulty in making bridges across Brunswick-street, and the intervening streets to Creighton-street, along the *west* side of which the railway could be carried still on the high level. Across the river and over the permanent bridge another bridge on high level could be carried, on which the railway could run. A bridge across the North Wall into the Custom House Docks, and one across Sheriff-street would be the only ones needed at the north side of the river; and, inasmuch as the Custom House Docks would not be injured, but on the contrary improved by the addition of valuable covered stores which would be made by and under the railway, nothing would have to be paid for ground on the north side of the river. The ground on the south side required for the undertaking is of comparatively small value.

It may be urged that this plan would interfere with the traffic on the river, and I at once admit that it would, but only to a very limited extent, for the class of shipping that at present finds accommodation westward of Commons-street, is, as a rule, small, and to meet its requirements the centre of both the high and low level bridges could be made to open and close on the swivel principle, so as to allow of the ingress and egress of shipping at the same time, and thus reduce the period at which the bridge should be open and the traffic across it interfered with to a minimum. This plan does not, to my mind, present any engineering difficulties, or require an enormous outlay; if it did, perhaps it would have met with more favour ere this. I should be glad to hear the arguments which can be used against it, if any, for as yet I have heard none.

I believe it would be for the interests of the citizens, and also of the railway companies, but especially of the Wicklow and



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Northern Companies to have this plan carried out, and by its means much of the present ferry difficulty would be got rid of. That the Great Northern Railway Company has not long since seen the necessity of an easy access to its terminus from the south side of the city is strange, for owing to the difficulty of access thereto, many persons who would reside on their line are prevented from doing so.

The railway companies would, of course, pay at least a moiety of the expense of the new bridge, and thus the pockets of the rate-payers be relieved to a considerable extent.—Yours faithfully,
W. J. ROBINSON.

Dublin, 16th Nov., 1876.

P.S.—The bridge should be erected between two streets abutting upon the quays, not between a street in which there is but small traffic at any time, and a lane in which there is little or no traffic, and which does not afford ready communication with any leading thoroughfare.

If the plan I suggest is considered undesirable at present, so far as the railway portion of it is concerned, there is nothing whatever to prevent the construction of the lower, or passenger and cart bridge, in such a manner as would allow of the erection of the upper or railway bridge at a future time, when its necessity and desirability would be acknowledged by the railway shareholders, and by the public at large.

W. J. R.

WHEN SHALL WE THREE MEET AGAIN?

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—The Deane, Drew, and Hill controversy is entertaining, and should be encouraged, if it does nothing more than “draw” “A Celt.” It is currently reported that pistols for two are all but ordered, in consequence of a private communication from one of the architects to the other. In fact, the feeling is as bitter as though there was a point of theology to be settled by two D.Ds. (this is intended for a joke; you mightn't see it, the point is so fine, unless I called your attention to the two capital letters).

“A Celt” says:—“The flue in the wall is still a puzzle.” Bedad it is! He goes on to explain that “neither heat, nor air, nor joists had anything to do with it.” I quite agree with him; but then he explains that it was “simply for sound,” and there I must part company with him. He tells how “some people broke one open from one end to the other,” and found it “*vox, et praterea nihil*.” Well, of course if the *vox* was there, it establishes his theory, and conclusively settles the point about sound; but who heard the *vox*? An answer would oblige. I pause for a reply. There are others beside the D.Ds. interested—Dr. Slade, for instance.

But the most amusing part of his letter is to come. He has seen “a horse's head taken out of a similar hollow in the walls of an old church,” and supposes that “the dry hollow head improved the vibration.” He must be a wag. Was it the head of a horse or of an —? I mean could one of the three gentlemen interested have been inspecting the “hole”—got his head instead of his foot in it—when “A Celt” was there? Was the *vox* anything like a bray?

I did not intend to be personal; but the heading to this letter was naturally suggested by the concluding paragraph of your correspondent's letter. He hopes that “Drew, Hill, or Deane may be able to explain.” Perhaps if they met at the old Castle of Manorhamilton, and studied the “holes” there, they might be able to arrive at a theory about which they need not fall out. It is a pity to disturb the harmony of a profession such as ours; but,—you sly dog, don't poke me in the ribs,—you know we like it!—Yours,
AN EMINENT ARCHITECT.

[The lively letter of our “Eminent Architect” still leaves unanswered the pertinent queries of “A Celt,” and “we three” will have to meet again, with power to add to

their number. A joke is a joke, and we have little doubt that “A Celt”—who, by the bye, is not an architect, but rather an antiquary and historian, and a Celtic scholar to boot—will not evidence any thinness of skin on the head of our “Eminent Architect's” remarks. We ourselves are almost inclined to make a pilgrimage to the Rock of Cashel, for the purpose of having a peep up the flues. There might, after all, be something in them undiscovered by Messrs. Deane, Drew, and Hill. Our muse is waxing impatient, and as there are, according to a great authority, “sermons in stones and music in running brooks,” there must be some poetry in connection with our subject.

Three architects, in Irish circles famed,
Artless, and with love of Art inflamed,
Taking from their predecessors' cues,
Disputed long on hypocasts and flues.
One said the opes in Cormac's Chapel were
A saintly plan designed for heating air.
The others held the holes no doubt were made
For bonding timbers, that have long decayed.
“A Celt,” who speaks the language of his sires,
Soon poured cold water on the trio's fires—
Showing, by their own words, the holes they found
Had nothing in them, and that nothing—sound!

Thig and thu, messieurs! How many Richmonds are there now in the field? Some of them, no doubt, are determined to die hard, if not for the love of their art, at least for “the fun of the thing.”—Ed. I. B.]

“PLUMBING.”*

Of the many book-making institutions which have thriven and grown fat on the modern demand for technical education in homœopathic doses, one of the most successful is “Weale's Series.” This *olla podrida* of the arts and sciences endeavours to be very comprehensive, and to cater for every profession and almost every branch of trade; in its wide scope it ambitions to include every theme “from pitch-and-toss to manslaughter,” and the manufacturing process of every article “from a needle to an anchor.” The architectural man as well as the builder's apprentice may approach the “new list” with the feeling that from this fount of all knowledge he may hope to derive inspiration on every point, from the trapping of a drain to the carving of a pediment. The recent additions to the series, generally speaking, have been under the editorship of master-minds; hence it need not surprise us to find a master plumber filling his niche as No. 191 in the “Weale's Rudimentary Series,” and even a casual reader must be struck with the fact that he fills it in a very personal manner. From his preface we glean that the turning-point in his history was coeval with the national excitement which ensued on the ever-memorable typhoid fever which, in the year 1871, without respecting rank or lineage, attacked the person of his Royal Highness the Prince of Wales. This was the tide in the affairs of our author which, taken at the flood, led on to the good fortune of his being appointed by the *Building News* her esquire of the soldering bolt, and we must credit him with having held his own in various columns of that journal against all comers, without any affectation of namby-pambyism. Having won his spurs on this battle-ground, *estsons* we find our newly-dubbed knight-errant of the *effluvium pipe*, nothing *forfoughten*, appearing in new fields for the exhibition of his prowess; and he would scarcely do credit to his training in the Tavistock-street jousting-ground if, in his preface and introduction, we did not find him striking a self-complacent philanthropic attitude. We are led to conceive him posed after the manner of one of Moyr Smith's heroes—let us say Salmones,—with artistically-elevated and well-pronounced

chin-bone, his bolt and the tools of his “mysterious craft” grasped with a never-say-die air, and effectively grouping with divers nondescript apparatus, arranged à la Buchan, grotesqued à la Dresser; his left elbow akimbo, and pendant therefrom his soldering-cloth, his toil-worn finger-tips waving fraternal adieus to Kibblewhite and occasional fervent salutes to his new-found fellow editors—Bury, Garbett, Tredgold, Gwilt, the Duke of Aberdeen, and Sir Edmund Becket; indeed we actually find him trying to “lick thumbs” with Carpenter, Fergus, Rawlinson, Gairdner, Richardson, and other great guns of a like sanitary kidney to himself: in fact this book (No. 191, Weale's Series) is mainly an autobiography ingeniously interwoven with some practical and, as far as they go, useful hints on the great theme of this wizard of the soldering-pot. We therefore feel bound to notice that the first great fault in this much-needed treatise on “plumbing, house-drainage, &c.,” is the worthy Scot's *quorum pars magna fui*, which should have been promptly dropped after our introduction.

We have not far to seek for an explanation of such an exceptional exhibition of editorship, for we never met a practical plumber who did not endeavour to envelop the most commonplace practices of his trade with a thick darkness of demi-sorcery and profound mystery, in which the *quorum pars* is the most vital element.

Most of us have acquired more or less experience in the manipulation of the chisel, the saw, and other tools borrowed from the carpenter's kit, with but the injunction from that decent soul to “count our fingers before we begin to make chips.” We have dozens of amateur turners in our midst and tyro engineers; thousands of economical housekeepers are their own paper-hangers and house-painters; with facilities galore to aid them, our household tool-box comprises scores of implements devised that we may dispense with jobbing cabinetmakers and glaziers; if he is so minded, “every man may be his own printer,” and so on *ad infinitum* through every craft but that of the plumber. Who ever heard of the family man's soldering iron? There are thousands of engineers, craftsmen as well as amateurs, who could not patch or solder up a leaking water-pipe or re-stuff their bib-cock, to whom all that and those enclosed under the wood-work of the seats of their w.c.s is an unfathomable mystery. This state of things is but the outcome of the gullibility of the general public, and their willingness to be mystified by those wizards of the soldering-pot, their plumbers. Ten to one but our author, up to the time when he “struck ile” in the correspondence columns of the *Building News*, was a mystery-man like the rest of his craft, and without strong incentive, as such would have remained to the end of his days. Even in his preface he fondly hugs the idea that his craft is “one of the real mysteries” which must ever have remained undisputed without the “desideratum” supplied by his modest work. Any would-be tradesman failing to grasp his newly-forged “missing link,” must serve a “long probationary apprenticeship” to some fellow mystery-man.

There are two classes for whose benefit this book has been written—the architect and the apprentice plumber. Now, having carefully examined it chapter by chapter, page by page, we must say that, as far as the architect is concerned, very much of this otherwise useful *vade mecum* is deplorably “hamshackled” for want of proper illustrations. The ill-arranged woodcuts, re-issued without revision of their many glaring incongruities and inaccuracies as they appeared in the *Building News*, remind us very much of the diagrams which would be made by a plumber with an uncouth lump of chalk on the floor; in their first issue they were strangely out of place in such a would-be hoity-toity publication as the *Building News*. Alas! that a paper which oftentimes waxes scurrilous in its contempt for its contemporaries (whose

* “Plumbing: a Text-book to the Practice of the Art or Craft of the Plumber; with Supplementary Chapters upon House Drainage, embodying the Latest Improvements.” By William Paton Buchan. London: Crosby Lockwood and Co.

mildest epithets for its fellow-labourers are, "old mother jog-trot" and "young would-if-it-could") should place itself "below par" by issuing such wretched woodcuts, which were the laughing-stock of its professional subscribers; but then our Tavistock-street contemporaries are no exception to the saying—"mice an' men gang aft agley." And we may also remark *en passant* that the unquestionable literary superiority of the *London Builder* and its excellent co-worker the *Architect* counterbalances the more numerous illustrations of their self-lauding neighbour, and, though frequently taunted and reviled by this would-be "cock of the roost," neither of them have forgotten their own dignity, and retorted in kind.

Having pointed out the chief objectionable features which glaringly strike us in Mr. Buchan's book, we shall proceed to examine it more in detail, and we cheerfully record our approbation of nearly all the sanitary principles he enunciates. His theories are sound and unobjectionable, save to a few, who have sanitary crotchets and topsy-turvy "fads" of their own, duly patented and advertised. He has more than the craftsman's rule-of-thumb knowledge; he has good common sense, and an original, vigorous way of his own in retailing his information. We particularly recommend the following:—Chapter XXVII.—Scientific and Safe Water-Closets; Chapter XXIX.—Improved System of House-Drainage; Chapter XXX.—General Drainage; but shall look into them closely hereinafter. That we should place clearly on record our opinion as to the soundness of the author's sanitary principles, is due to him, inasmuch as such faults which crop up in his book, and which he does not hold in common with all of his tribe, should be laid at the door of 81 Tavistock-street, London; but of course our author is responsible for them, one and all.

Certain are we that to many of the younger members of his craft the book would be useful, if he had appended a glossary of foreign words and phrases. We are sorry to find him frequently travelling out of his way to make his *Athol-brose* smack, and give it a literary flavour. "*Inter alia*, a gentleman, e.g., pipes to bring down water *per se*"; these and a host of other spicy tit-bits, however readable in architectural circles, are ill adapted for a "plumber's *vade mecum*." There are some indications cropping up in its pages that the author has had (in those days before he came out of the shell in the nifty-naffy hatching oven at Tavistock-street) extensive experience in slop-shop practices, and has by no means shaken himself free from them. His frequent allusions to the use of zinc in plumbing work—"patent lead pipe," by which he means compo gas-pipe—would never do in first-class work, although we have no doubt it very extensively obtains in the cheap and nasty work which, of all places in Great Britain and Ireland, is most in vogue north of the Tweed. We do not see the desirability of ingrafting these chapters anent zinc-working into what claims to be a first-class treatise on plumbing and house drainage; our Scotch "neebors" have "an auld farrant" way of slipping zinc into their effluvium and other pipes; and while we are certain our author would not tolerate bad work, yet, from the extent to which "canny Sandy" indulges in such and kindred practices, we should have had a vigorous protest against them in the body of this book. In fact, zinc working in London and most provincial cities is a separate branch from plumbing; the most successful zinc-working establishments carry it on altogether as a speciality. We would not wish to ignore for an instant the vast number of architectural and other useful purposes to which zinc may be applied, but by all good plumbers it is very properly, *as far as their work is concerned*, looked down upon as being *infra dig.* Any useful information given by Mr. Buchan under this head can be obtained first-hand and in a very much superior manner from Messrs. Braby's book.

We have no objection that chapters I. and

II. should be devoted to iron gutters as part of the scheme of house drainage; but by the author iron gutters are made to usher in his plumbers, whereas the fixing of iron gutters and their down-pipes is all over the kingdom relegated to an inferior class of workmen called "spouters." We presume that by half circle gutters is meant semicircular gutters.

Oh! ye architectural gods and little fishes, study this paragraph from page 20:—"While treating of ornamental iron gutters, we may here state that, in order to give them a fair chance to do duty in lieu of stone cornices, they ought to be painted stone color. . . . We have observed that this is often neglected, but consider that to be in great measure an oversight of the architect, for we can hardly suppose otherwise than that a word from him would not only have set that right, but also thereby have given fair play to his own design." From this rhodomontade we get an insight into the author's true meaning, when issuing the following "brave words" while self-poised on the key-stone of his introductory *pons asinorum*:—"Both the architect and the plumber must work in harmony, and together do whatever in them lies to produce such a result as will be both creditable to them, and a blessing to the community at large."

But our hypercritical plumber must sit on the architect forsooth before such grand results can be produced as stone-finished cast iron,—"tis a way they have in the army" at Tavistock-street, where well-pronounced cheek is the chief physiognomical feature.

On looking at figure 20, we are reminded of the phrase in vogue in "that beautiful citie called Cork"—"tis all a one side like Christ's Church." Is this also an heir-loom from Tavistock-street? We have no instructions as to lining cisterns with lead; we know that zinc is extensively used in Scotland, as its cheap and nasty substitute. Our author thus writes in commendation of zinc ridges:—"No. 10 is indeed little enough." The cheese-paring jerry plumber could scarcely go astray in "consulting the author upon any matters referred to in this work." We recommend to the notice of Mr. Drew and all diocesan architects of the advanced school, figure 28 and the accompanying letter-press:—"Iron ridges can be had either quite plain, as per fig. 27, or with many different styles of ornament to suit the character of the building, as per fig. 28." The annals of Irish archaeology cannot furnish a more unique *motif* to aid us in breaking our sky-lines. This figure 28 has strong claims, *more Scotorum*, on the sympathies of all pious "retchualists"; it was originally incubated in the beforementioned nifty-naffy oven, and first burst upon the astonished gaze of the subscribers to the *Building News* on the 26th day of January, 1872.

(To be continued.)

A KICK FOR A BITE.

Mr. Frederick Stokes, the chairman of the Rathmines and Rathgar Commissioners, thus replies to an "affectionate invitation" to place the township under the Corporation in the matter of water supply, &c.:—

In the city and Kingstown they have Vartry water, Government audit, and meetings open to the Press. In Rathmines none of these inestimable blessings.

For the last ten weeks the death-rate has been—Rathmines, 17·5 per 1,000; City, 21·5; Kingstown, 26·7. From zymotic diseases, the most to be affected by good or bad water, deaths were—Rathmines, 1·5; City, 4·3; Kingstown, 5·6. In the great visitation of cholera, the proportion of deaths was similar. In the city twice, in Kingstown five times that of Rathmines.

There are 460 houses on the line of the Vartry pipes in the township, of which only twenty have taken that supply, which is described by Mr. Emerson Reynolds as having rather more organic contamination than the Rathmines supply.

Of 3,300 houses in the township, there are only 27 to let, in spite of increased rents, and 142 new

houses building—a greater number, probably, than in all the rest of the county put together, and not a bad test of good government.

We have read of a physician who, when told by his patient that he could eat well, drink well, and sleep well, replied that these were very bad symptoms, and he would give him something that would take all that away. Some such remedy would be the transfer of the government from the Town Hall to the City Hall, and those who listen to the proposition must be as soft as Vartry water.

Notwithstanding what Mr. Stokes has said, the water supply of Rathmines is open to objection, and there is room for improvement also in the local rule of this prosperous township.

L A W.

O'Hare v. Great Northern Railway.—At the Quarter Sessions, Armagh, Mr. John O'Hare, builder and contractor, Newry, sought to recover £10 14s. 8d., value of two tons of cement which defendants, in January last, undertook to carry from Dublin to Armagh. On arrival of the cement at Armagh station, plaintiff's foreman went there and tendered the amount of carriage. The company's servants refused to deliver the cement except on condition of their being paid the sum of 8s. 10d., freight on a quantity of spouting which, two years ago, was conveyed over the Dublin and Drogheda Company's line to Newry from Portadown and back, instead of being conveyed to Armagh direct, which 8s. 10d. plaintiff refused to pay. Mr. Cochrane, on behalf of the company, contended that his clients had a lien on the cement in respect of the carriage of the spouting. He quoted 8 Vic., c. 20, sec. 97, which said—"If on demand any person fail to pay the tolls due in respect of carriage of goods, it shall be lawful for the company to detain and sell such goods; or if the same shall have been removed from the premises of the company, the company may detain or sell any other goods within such premises belonging to the party liable to pay such tolls." Mr. Gallagher, on the part of plaintiff, contended that the company have no lien in respect of the cement. He quoted "Hartley v. Hitchcock," in which where a coachmaker repaired a carriage and allowed the owner to take it away, it was held that the coachmaker could not retain the carriage for past repairs, when again brought to him. The Chairman held that the act relied on by Mr. Cochrane merely gave the company a lien on articles in the possession of the company at the time of the carriage of the goods in respect of which the claim was made. He gave a decree for the amount sought, along with witness's expenses.

THE BOOK-CANVASSING SYSTEM—A CAUTION.

At the Commission of Oyer and Terminer on the 7th ult., before the Lord Chief Baron and Mr. Justice Keogh, John Mahony was indicted for having, by means of a forged order, obtained a sum of 15s. from John Henry Noble, with intent to defraud.

The prisoner pleaded "guilty."

It appeared that Mahony had been employed by Mr. Noble to procure subscribers, on commission, for a publication called "The Progress of Mechanical and Civil Engineering," which was to be issued in twelve parts, at 10s. 6d. each. A paper was handed to each subscriber to sign, by which he bound himself to take the entire work. The prisoner, it was proved, had brought to the prosecutor one of these papers signed "Robert W. Hadfield," and was paid 15s. commission. The signature was a forgery.

The prosecutor, John Henry Noble, was called. Mr. Justice Keogh, addressing him, said the prisoner pleaded guilty of having obtained a sum of 15s. from him by false pretences. This seemed to be rather an expensive publication, for it would cost six guineas when completed. He would wish to know who were the authors of it, as there were no names mentioned in it. They must, he thought, be very remarkable men, when they did not give their names.

The Prosecutor—The two Mr. Smiths and myself are the authors.

Mr. Justice Keogh—And who is the publisher?
The Prosecutor—The publisher is Mr. Swan, the scientific book publisher in Charing-cross, assisted by his agents in Glasgow and Liverpool.

Mr. Justice Keogh—I know the names of most publishers, but I confess I never heard of him. Would respectable houses canvass for books published in parts in this way? Is not this a system something like what we experienced in "Lewis's Topographical Dictionary"? I think great inducements are held out to canvassers by this system to defraud and to lead innocent persons to sign for this publication, which they could get for one-third of the price in any book-shop afterwards.

Prosecutor—I can let your lordship see the work.

Mr. Justice Keogh—I don't want to see it, for I assure you I never intend to become a subscriber. This system of going about to the unwary and uninitiated, giving high accounts of this great work, as if they had had nothing like it since Newton's Principia, and thus inducing innocent persons to put their names to these papers, to become subscribers, was greatly to be deprecated. Actions are afterwards brought against them, and there is actually a certificate on the back of these papers already prepared for an action in advance. Did you make any terms with the prisoner before he was arraigned?

Prosecutor—I arranged with him what commission he was to get, but I never made any promise to him about abating my claim against him. I did not speak to him about pleading guilty.

Mr. Justice Keogh—The whole system is greatly to be deprecated. Respectable publishers publish books, and send round these canvassers, and they can only be intended for the unwary. It shows how the business pays, when they can afford to pay 15s. as commission on a six-guinea work.

Prosecutor—It is 12½ per cent.

Mr. Justice Keogh—Very nice percentage, indeed, for this valuable work, that could be had much cheaper if persons waited until it was all published, though such works invariably stop in the middle, and then they are valueless.

The Lord Chief Baron—Is it not a fact that anyone going into a bookseller's shop and purchasing a book can get a discount of 2d. in the shilling if they ask it, and that subscribers to this work sign an agreement by which they can get no discount whatever?

Prosecutor—It is so.

Mr. Justice Keogh—And is not the result of this system, that a person who is unfortunate enough to sign one of these papers is bound to pay a great deal more for the book and parts than he would pay for the whole book in any publisher's shop?

Prosecutor—That is so.

Mr. Justice Keogh—You may go down. I don't think you are likely to get many more subscribers after that.

Addressing the prisoner, Mr. Justice Keogh said he had been a defaulting collector obtaining subscribers for a scheming publication. The whole thing was a very discreditable transaction, and created litigation, for the ground-work of an action at law was on the back of the printed notices. He thought all the parties concerned were entitled to very little consideration after starting this sort of a thing. The sentence of the court was that Mahony should be imprisoned for three months and kept to hard labour, to date from the time of his committal.

HEALTH AND SEWAGE OF TOWNS

THE first ordinary meeting of the 123rd session of the Society of Arts (London) was on the 15th ult., when the chairman, Lord Alfred S. Churchill, delivered the address, a portion of which we print:—

In drawing attention to some of the topics which I may fairly expect will occupy the deliberations of the society during the session, I must be permitted, at the risk of repeating to some extent what has already appeared in the council's report at the close of the session, to refer to our proceedings of late, inasmuch as, doubtless, our action of the past must be continued in the present session. In May last a Conference was held in these rooms on the Health and Sewage of Towns. It was numerously attended, representatives from all parts of the kingdom were present, and the interchange of the experience and opinions which then took place created much interest. The society's report of the proceedings forms a valuable contribution towards the elucidation of the subject. The sewage question still remains a problem for solution, notwithstanding all that has been done for nearly a

quarter of a century. How to deal with our sewage, and how to get rid of the nuisance at the smallest possible cost and with the greatest advantage to health, is a difficulty which still confronts us. Exaggerated notions at one time prevailed as to the fertilising value of the sewage, and there was a popular belief that, in lieu of a burden on the ratepayer, it would become a source of wealth to each town. Scheme after scheme was propounded on this supposition, but only disappointment followed. Chemical analysis, it is true, showed certain valuable fertilising constituents and fostered delusion, no account being taken of the cost at which they could be secured, even if any process had been discovered by which they could be made available. Experience, however, has led to the entertainment of more sober views, and the public are now beginning to learn that profit must not be looked for. Our health and comfort demand that the nuisance must be got rid of in some way or other, and at any reasonable cost; and if by some method of treatment a return can be obtained to diminish this cost, so much the better. We are no longer permitted to pollute our streams with it, and other means must be adopted for the removal of, and dealing with, our sewage. Experience would seem to show, and our conference enforces this lesson, that perhaps a profitable as well as healthful way of dealing with sewage is to apply it to the land; but, unfortunately, it is not every locality that can supply, at a reasonable price, land suited for the purpose, either in soil or position. There are, doubtless, various processes for treatment of the sewage, chemically and by precipitation, which result in the production of a good effluent, generally sufficient to meet the requirements of the Rivers Pollution Act, passed last session, but the precipitant, sludge, or solid matter produced is but of little value, and must not be reckoned upon as giving a return in money covering the outlay for works and cost of carrying out the process. At Leeds, I understand, where probably a larger amount of practical experience has been obtained on an extended large scale than in any other town, the difficulty has been to get rid of this sludge or solid matter; and it is only within the last few weeks that arrangements have been made with a contractor to purchase it and take it away at 12s. per ton, a sum totally inadequate to defray the cost of treatment. All that can be looked for in any case, wherever the water-carried sewage is applied to land, or treated by any known process, is that, under the most favourable conditions, some small return may be obtained in diminution of the necessary cost of getting rid of the nuisance.

While I am on the subject of sewage, there is another point of very considerable importance to which attention was drawn at the Conference, viz., the construction of house drains, and their connection with the sewers. It is of little avail that we spend our money on an admirable system of main sewers, so long as but little care is bestowed on the means for taking advantage of them. Indeed, these very sewers themselves thus become a source of annoyance and disease. Under the Metropolis Management Act, and other Acts of Parliament, the vestries and district boards of works have powers to a great extent over these house drains, and in reference to all houses built, or re-built on old sites, since the passing of that Act in 1855, the plans for the house drainage must be previously approved by these authorities. It is obvious that, except in the outskirts of the metropolis, where extension is going on, but little practical supervision can thus take place in reference to house drains. Even in these cases the supervision in many instances does not extend beyond approving the plans, the construction of the work takes place without any notice to the vestry or Board of Works, even had they a staff who could be continually employed in watching each individual case of construction. Plans in these cases are deposited, and are accessible to the ratepayers. In the vast majority, however,

of the houses in the metropolis there is no clue whatever to the course of the drains—no plans are forthcoming. The unfortunate householder who desires to amend the unhealthy condition of his dwelling has no resource but to submit to a thorough search, and this means total upset of all the lower portions of his house with its concomitant disagreeables and long bill. Take the parish in which our Society of Arts stands; there are, I understand, about 2,320 houses, and the vestry have accumulated, since 1855, plans of the drainage of 820 only, and this from no fault of the vestry, or its active and intelligent officers. In an old and central parish like St. Martin's, it is obvious there is little or no amount of new building going on except on the sites of old buildings. It is only on the occasion of rebuilding, or on complaints made of nuisance, or on a report of the medical officer, or private application on the part of an owner, that any action of the vestry takes place. In the case of rebuilding, a notice is sent from the vestry-office requiring a plan of the proposed drainage to be sent in, and the sanction of the plan by the vestry guided by their surveyor, is imperative. This plan is retained, and filed at the office for reference. In case of complaint or report by the medical officer, the drains are inspected by the surveyor, on his report an order is made for their being put into proper condition, to the satisfaction of the surveyor, and a plan is then deposited. In this way, since 1855, the 820 plans above referred to have been obtained. As regards the remaining 2,000 houses, the vestry have no information whatever as to the house drainage. The vestry have plans and particulars of all the sewers within the parish, and their surveyor is ready at all times to give every information to parties on this point, in order to facilitate the arrangements of the house drainage, and its proper junction with the neighbouring sewer. Here, however, the action of the vestry ends. The plan or arrangement of the drains may be perfect, but the execution may be and frequently is faulty, and all the evils of imperfect drainage still remain. There is no guarantee that the work will be properly effected. The work is covered in, and all defects are thus concealed; and when, after a time, these are discovered, it is too late to get any satisfactory remedy or compensation against the builder or his men, the former probably believing in good faith that the work has been properly constructed.

To undertake the actual supervision of the execution of approved works of house drainage would involve an increase in the surveyor's staff, and a consequent increase of charge on the ratepayers, but the benefit in return would over and over again repay the cost. How far it would be practicable to get plans of the drainage of all the remaining 2,000 houses is a question not easy of solution. That such a deposit of plans should be made imperative by act of Parliament is demanded in the interest of health and comfort on the part of occupants. Such a measure is greatly needed, and in the end the expense and trouble incurred would be well compensated for by the improved comfort and improved health to the population which would ensue. In these 2,000 houses about whose drainage we have no information, it may fairly be estimated that, in the majority of cases, the drainage is of an antiquated character, and consists of the old-fashioned square brick drain, ill adapted for its purpose. At our conference the other day, Dr. Whitmore, the Medical Officer for Marylebone, gave some remarkable instances of the imperfection in drainage which had occurred in Marylebone, and especially in Harley-street, and which, under direction of the vestry, had been remedied. There was scarcely a single house in that street that was perfect as regarded its connection with the sewer, and notices were served on 28 or 30 houses which were found wholly unconnected with the sewers. It was, however, only the occasion of a new sewer being made which brought these defects to light, and enabled the vestry, through

the vigilance of its able officer, to take cognisance of them. While speaking of the old square brick drain, let me point out a defect in our metropolitan drainage which I am informed is still existing in many parts, notwithstanding all that has been done. We have, at a heavy cost, constructed a magnificent and complete system of main sewers. The District Board of Works have supplemented them in their various localities by subsidiary sewers, also of approved construction, to enable advantage to be taken of the main sewers; but there still remain many districts in which the houses can only avail themselves of these works through a network of the old square brick drain sewers working into them. It is needless to point out the imperfect character of these latter drains, which, from their shape and material, are necessarily most inefficient. The district in which we now stand is an instance of this. The house drains of this building empty themselves into a small square brick drain belonging to the parish, at the back of the premises, which, by some means or other, following a somewhat circuitous course, at last comes round to a great main sewer running under the Thames Embankment. If I am rightly informed, such a state of things is by no means uncommon in many parts of the metropolis. I throw out this for consideration. But, to return to the house drains. I will not enter here into how far the law confers powers on the vestries or district boards, to secure a perfect house drainage. We know that under Acts of Parliament they are large, but whether sufficiently extensive for their purpose I must leave to the learned to discuss. We do, however, know this, that whether sufficiently large or not, the great bulk of the house drainage is practically under no effective supervision. At a conference lately held in these rooms, when many of the medical officers of health and district surveyors were good enough to attend on the invitation of the sewage committee, there appeared to be a large confirmation of the existence of these evils, in many districts at all events, notwithstanding that very extensive powers, it was stated, existed; but it was admitted on all hands that the practice of the vestries in availing themselves of these powers varied in every district; that whilst in some districts a great deal was done to remedy the mischief, in others the practice was law, and the law all but a dead letter. It was the unanimous feeling of those assembled at the conference that some steps should be taken to ensure the enforcement of the law and secure uniformity of action. I know it will be said that to attempt to deal with existing houses would lead to an interference with the proverbial Englishman's castle which would never be tolerated, and that a system of centralisation would be set up only worthy of continental despotism. Whilst I am no advocate for centralisation or undue interference with individual action, yet it must be admitted that there are numerous cases constantly arising in which individual action is practically inadequate to procure those comforts and conveniences essential to the well-being of society. Day by day, as civilisation progresses, so does individual action become less and less competent to deal with the complex problems of society. Combined action and restraint on the individual necessarily follow. If we look back but a few years we see how largely this system has now become interwoven with our daily life. Compulsory vaccination and the building acts are noticeable instances. In health matters especially the law and the inspectors are perpetually at work, but nevertheless more is needed. In this matter of drainage we already do much, and in the interest of public health much is demanded. If the Englishman will persist in individual action, and build his "castle" in contravention of the laws of sanitary science, it is time that the law should step in, and that Government should secure, so far as lies in its power, a sound and healthy population. Public health is, after all, public property. It is all very well to say, as some

do, that the duty of the parish vestry or other public authority should extend to the external wall of the house, and no further, and that then all further responsibility should fall upon the occupant. But how is the occupant to be assured that all the internal arrangements are of a suitable and effective character? The occupant is at the mercy of those who own and those who build houses. Can it be expected that a tenant, finding his house defective in these arrangements, is to be at the expense of putting all these defects right? Surely it is not unreasonable to ask that some competent public authority should insist on certain sanitary arrangements being carried out. We have a Building Act—whether sufficiently stringent or not may be a question—which, in the interests of public security, compels the constructors of our houses to comply with certain conditions, enforces the building of party walls, and such like, as a safeguard against the spread of fire. Surely, in the interest of public health there is nothing unreasonable in suggesting that the internal sanitary arrangements of our houses should equally be under competent supervision. An intending occupant would then have some security that, in taking a house, he was not incurring the risk of himself and family being subjected to suffering and disease. On this subject the council propose to continue its labours, and it is confidently expected that the second Conference on Health and Sewage of Towns, intended to be held in the course of the spring, will be as successful as the first.

Whilst speaking on sanitary matters I must not omit to draw special attention to the enlightened action of the King of the Belgians in relation to this subject, the more especially as it affects one of the objects early treated by the society, viz., the improvement of the dwellings of the wage classes. His Majesty offers, to be awarded at the next International Sanitary Congress, "a gold cup, of the value of five thousand francs, to that municipal or local authority, or to that private association, which by its improvement of the dwellings of the wage classes shall effect the greatest reduction of their death-rates at the lowest cost. This is an international prize, which may be said to be new in principle, great in itself, and capable of extended application; it is new in this respect, as proposing a competition, not between individuals, but between collective communities. To the ratepayers and to the shareholders, whose money is being expended, it will be of value, and should be promoted by them; and, indeed, it should be required by them of those who expend their money, that they should avail themselves of the great opportunity of proving their competence. It will be for the council to consider in what way they may in England contribute to the attainment of his Majesty's wise and beneficent object, by calling local attention to it, and supplying suggestions of means for its attainment.

GLASNEVIN AND DRUMCONDRA DRAINAGE.

MR. P. F. LEONARD'S PLAN.

NORTHERN DISTRICT.—For the drainage of Glasnevin village I provide a line of 12-in. vitrified clay pipes, commencing at the gate-entrance of Claremont Institution, passing through Claremont-avenue to the point A, thence through the main street, crossing the River Tolka in a 12-in. iron duct to the point B. For the drainage of Prospect and Cross Guns I provide a sewer of dimensions similar to the one just described, commencing at the point H, passing through Glasnevin-road, joining the Glasnevin sewer at the point B, where it will intercept the drainage of Prospect Cemetery. Both the drains just described join at the point B, and their united contents I propose to carry along Corey's-lane in a line of 15-inch vitrified clay sewerage pipes as far as the point C. The sewage of Drumcondra-hill (north side) I propose to carry from the point K by means of two lines

of 12-inch pipes (one at each side of the road), joining at the point L, thence to the point C, where it joins the main sewer (B, C), passing over the River Tolka at Drumcondra Bridge in an iron duct 16 in. diameter, to the point D. The sewage of Drumcondra village I propose conveying in a line of 12-in. vitrified clay sewerage pipes, between the points J and D, intercepting the drainage of All Hallows College and Belvidere-place at the point J', which, by existing arrangements, finds its way direct into the Tolka at Drumcondra Bridge. The whole of the sewage due to the drains A, B—B, H—K, L, C, D—and J, D, is to be collected at the point D; from thence I propose conveying it in an 18-in. sewer as far as the point D', intercepting on its way the drainage of Goose-green-avenue. From this latter point to the point E a 20 in. barrel sewer brick and cement) will be necessary, except at Ballybough Bridge, where I propose conveying the sewage through two 15-in. iron spyhons laid under the bed of the river which, at this particular point, is seldom covered by water to a greater depth than 12 in. This sewer is to intercept the drainage of all the avenues and buildings abutting on Richmond-road between Drumcondra and Richmond-avenue, including the western side of the latter.

SOUTHERN DISTRICT.—For the drainage of the Auxiliary Workhouse at Whitworth-road, Whitworth Hospital, and the new buildings recently erected between Drumcondra-hill and Elm Lodge (see plan), I provide a line of 12-in. pipes, commencing at the point M and ending at the point N, where it will pass into the existing sewer. The drainage of Fairview-terrace and Burnett-place has been already provided for, and I propose to let it remain as it is, discharging at the point N. The united contents of the two last described drains I propose conveying in a line of 12-in. vitrified clay sewerage pipes between the points N and O. For the drainage of the southern end of Drumcondra Hill, Clonliffe West, and part of Clonliffe East, I propose to lay a line of 12-in. pipes between the points K L and as far as the corner of Clonliffe-road; from thence, in a line of 15-in. pipes, through Clonliffe-road as far as the point O, where it joins the drain N O. The sewer just described provides for a very large increase in the population, building operations being [at present] carried on with great vigour on Clonliffe-road and Drumcondra-hill. Provision is made for the drainage of St. Alphonsus'-road (which has recently been opened for building purposes), as well as of St. Alphonsus' Convent and Holycross College. All the drains of the southern divisions of the two districts converge at the point O, and from this point I propose to carry the sewage in a line of 18-in. vitrified clay sewerage pipes as far as the point E, where all the drains of the entire districts, north and south, converge. From the point E, I propose to carry the united sewage of the two districts in an egg-shaped sewer, 8 ft. by 2 ft., discharging into a chamber at the point F, where suitable arrangements are to be made to insure the complete and proper discharge of all sewage matter finding its way into the drains, and to prevent a reflux during full tide. The level of the sill of chamber at discharging point must necessarily be considerably below high-water mark of ordinary spring tides (in order to secure proper falls); but I have placed it in such a position as to insure a free flow for six hours during each tide, or twelve hours out of the twenty-four. I may mention that the free flow of the Corporation drain, at the outfall known as the "Smoothing Iron," half a mile farther down on the East Wall, continues for only three and a-half hours each tide, or seven hours out of the twenty-four. For the purpose of discharging the sewage well into deep water, as well as to avail myself of the currents, I propose carrying it from the chamber at F, in a double line of 18-in. pipes, to the point G, in the direction indicated by the dotted lines. Throughout the entire works I have made ample provision for flushing arrangements, gully-holes, man-holes, ventilation, &c.

NOTES OF WORKS.

The foundation of a new wing to the Cripples' Home, Bray, was laid on Wednesday by the Marchioness of Blandford.

The plans for additions to the Adelaide Hospital, Peter-street, prepared by Mr. Bridgford, architect, have been adopted, and the building committee have been requested to take such steps as they may deem advisable, after consultation with Mr. Bridgford, to have the working drawings prepared and estimates obtained from competent builders for the buildings embraced in his plans.

HOME AND FOREIGN NOTES.

It is said that 188,000 vehicles pass weekly over London Bridge, and 105 policemen are exclusively engaged in regulating the traffic of the city.

ST. STEPHEN'S GREEN.—A conference was held yesterday at the Mansion House, of members of the Corporation and the Commissioners, on the subject of opening that square as a public park. After a discussion, which lasted two hours, an adjournment for a week was resolved upon.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.—At the ordinary meeting of this body held on the 20th ult. (Mr. Charles Barry, president, in the chair), a very interesting paper was read by Mr. Samuel Knight, associate, on "The Influence of Business Requirements upon Street Architecture." Some sensible remarks were made upon London fronts and shop fronts, in reviewing the past and comparing the present. Dublin architects and shop-front designers might profitably take a hint or two from the paper in question.

LOCAL RULE IN BRAY.—Some more of the curiosities and sinuosities of local rule in Irish towns were illustrated in the evidence given before the commissioners, who opened their inquiry at Bray on the 20th ult. Faction, corruption, nepotism, jobbery, and neglect; some doing their duty, more who will not do it, and others not allowed to do it, and the ratepayers and the poor and the public health suffering in the meantime. Oh! Bray, but you are not one odd; from Cork-hill to the Cove of Cork you have congenial company!

TRIM.—Mr. Corbett, chairman of the Local Government Commission, held an inquiry on Wednesday into the local government of Trim. Some curious revelations were made by the town clerk as to the management of the municipal landed estate of that ancient town. One of the commissioners, Mr. Patrick Molone, C.E., took exception to many of the statements made by the town clerk as to the management of the property. The clerk stated that the sanitary condition of the town was good; the houses were of a very poor description, covered with thatch; and that the property was in the hands of a great number of absentees, who did little or nothing in the way of improvements. The inquiry stands adjourned until Tuesday next.

GUN-COTTON.—The daily-increasing importance of gun-cotton as an explosive agent, and its adoption for various purposes by our navy, artillery, and engineers, induce us to offer our readers a few details relative to its manufacture and characteristics. Gun-cotton is a chemical compound of cotton (cellulose) with a mixture of one part of nitric acid with three of sulphuric acid. Nitric acid, when diluted to a certain point, ceases to act on cotton, hence the introduction of sulphuric acid to enable the manufacturer to carry on the almost interminable course of washings necessary to ensure the purity of cotton. At the Government Factory at Waltham Abbey, cotton-waste is chiefly used as the main ingredient. It undergoes the following operations, previous to which it has, however, been subjected to a thorough cleansing process; large quantities of it may be seen attached to frames, and submerged in the various streams and canals which flow through the powder and gun-cotton factory in a perfect network. The purest volumes of water are of course selected for this purpose. The purified waste is first torn into shreds, next passed on a band through a succession of drying chambers, then divided into charges of convenient weight, which are placed in canisters carefully closed. The acids are now mixed, one part by weight of nitric acid to three of sulphuric: these are slowly mixed in a stone cistern and allowed to cool. A charge of the cotton is now immersed in the mixed acid in an earthen pan with a shelf within it, the pan standing in cold water; the excess of acid is squeezed out on the shelf. The cotton then stands for twenty-four hours in a jar containing the acid (the jar as before placed in cold water). It is then whirled round very rapidly in a centrifugal machine to separate the free acid. It is next washed in small portions in a large volume of water to reduce

the heat which might decompose the cotton. It is once more drained in a centrifugal machine and well mixed. After this it is pulped in a pulping machine, the pulp is washed for forty-eight hours with hot water in a "poaching" machine, a little lime being added to remove every trace of free acid. The pulp is next drained and pressed into slabs by moulds. Gun-cotton was discovered by one Schönbein of Basle, in about 1845; in 1860, Baron von Leuk first perfected his system of manufacture, in which he soaked and washed the gun-cotton to get rid of free acid. In 1872, Mr. Brown, chemist to the War Department, discovered that wet gun-cotton might be detonated by the interposition of a small primer of dry gun-cotton between the wet mass and the detonating fuse. This discovery greatly conduced to the attainment of safety in the use of gun-cotton, as it is no longer necessary to dry it before use.—*Broad Arrow.*

RHYME AND REASON.

(Impromptu.)

No money!—it passes the bounds of all belief!
Behold £300 for a "Scavenger-in-Chief!"
None need apply but those who've got the ointment;
'Tis "grease," not "elbow-grease," secures appointment!!
MAC.

TO CORRESPONDENTS.

RAILWAY SCHEMES.—We intended to have made some remarks in this issue at length on the proposed extension of the Kingstown, &c., line to Grafton-street. We anticipate some grave objections to the route through the College grounds, and we will have something to say in the same and in other directions.

ST. STEPHEN'S GREEN.—We have taken careful note of the evolutions on the head of this question, and will be prepared to speak at an opportune moment.

A. B. C. PARTNER.—A letter lies for you at this office. You omitted to leave us your name and address. Pressure of original and other matter obliges us to hold over some papers, reviews, &c., and to cancel others.

RECEIVED.—R. B. A.—Artizan.—P. L. G.—C. E. (London).—T. C.—A Gas Consumer.—A Drumcondra Inhabitant (the subject is dealt with in this issue).—M. D., Clontarf (do.).—H. C.—W., &c.

THROAT IRRITATION.—The throat and windpipe are especially liable to inflammation, causing soreness and dryness, tickling and irritation, inducing cough and affecting the voice. For these symptoms use glycerine in the form of lozenges. Glycerine, in these agreeable confections, being in proximity to the glands at the moment they are excited by the act of sucking, becomes actively healing. Sold only in 6d. and 1s. boxes (by post 14 stamps), labelled—"JAMES ERS & CO., Homoeopathic Chemists, 48 Threadneedle-street, and 170 Piccadilly, London." Dublin Depot—Hamilton, Long & Co., Lower Sackville-street.

NOTICE.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

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PRESS NOTICES.

Athenæum.—We cannot now continue an examination of the contents of Mr. Brash's capital book. Let it suffice them that we recommend the perusal of the chapters on the churches of the Cistercian Order, Fonts, some of which have curious peculiarities, Masonry, and Early Christian Masonry. . . . Mr. Brash is a painstaking and accomplished student.

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The Irish Builder.

VOL. XVIII.—No. 408.

Sir Edmund Beckett's "Commentaries" on Building.*



GREAT English judge once, when a young man of twenty, wrote a treatise on the Elements of Architecture; he also cultivated poetry; but as he waxed a little older he abandoned these pursuits for the study of the law, and he signalled the transition by a well-known effusion entitled "The Lawyer's Farewell to his Muse." It is scarcely necessary for us to say that the great judge with architectural and poetical proclivities was the celebrated Sir William Blackstone of the "Commentaries." The architectural treatise of the judge is now forgotten and little heard of, like many other efforts of the same kind; but his great legal work is a subject of every-day allusion. The tendency of our remarks is not for the purpose of instituting a direct parallel between the abilities and tastes of the great judge and the modern celebrated parliamentary counsel. Sir Edmund Beckett has evidenced all his life mechanical tastes, not only in the matter of building and other cognate and even diverse constructional matters. He is an architect in one sense—a self-taught one, and his legal practice has afforded him great facilities for years of obtaining a good insight and experience of things architectural and engineering. Having a natural taste, and having had unusual facilities for acquiring experience in building operations, he doubtless looks upon the profession of an architect in a different light to the generality of mankind. It is possible that he believes it is not necessary to go through the ordinary routine to become an architect, and that any intelligent person with natural tastes and self-exertion may in time become a good one. Strictly speaking, to be sure, it may be said that Michael Angelo, Leonardi da Vinci, Inigo Jones, Wren, and, in later times, Chambers, Dance, and others, were not professionally taught and trained architects, yet they left behind them evidence of their undoubted architectural abilities.

Sir Edmund Beckett disclaims the intention of advertising himself as an architect, though he has built for himself and others during a quarter of a century; but he has come to the conclusion that, notwithstanding the many useful books on house building by professional architects, and the numerous treatises both by amateur and professional architects—comprising histories, theories, and artistic views,—the public are still without the one needful book for affording practical information, and advising how to avoid legal or structural mistakes. The book, then, on the author's showing, is more for

the use of that part of the public, who are at one time or other engaged in building operations, than for the instruction of architects. We would, however, do a grievous wrong to the worthy baronet were we to say that architects and builders are not likely to profit by a study of the work under notice. A large amount of the statements in the work has our hearty concurrence, notwithstanding some fallacies or mistakes, and a questionable use of hard epithets, deserved, no doubt, in some instances. There is no use in denying that this "Book on Building" is a clever one, and that it is likely to give rise to much adverse criticism. The author, of course, is so circumstanced, in a worldly point of view, that he has little to fear; he cannot be annihilated by irate architects or builders, or beggared by any isolated or combined critical assault on the part of a society or their representatives. Sir Edmund Beckett, on the whole, is consistent throughout, and everywhere when he thought it necessary to censure, he calls a spade a spade, and a botch a botch.

From the unprincipled speculative builders, up the social and professional scale to the great Gothic church "restorers," there is a succession of hard hitting and very plain speaking. The first five chapters of the work deal with the agreements with architects and builders, principles of construction, house-building—plans and masonry; house-building—carpentry and fittings, and church building. The sixth chapter and its accompaniments treats of domes, the Great Pyramid, and the sizes of large churches and buildings at home and abroad. In fact the work deals with such a variety of building matters, and expresses so many opinions on work and usages in connection, that it would need two or three long articles to do justice to it by way of review.

The first chapter touches upon many sore points and tender subjects—contracts and architectural drawings, competitions, commissions, &c.; and in connection with these matters Sir Edmund Beckett as a lawyer interprets the law in a manner that will not be relished by the majority of professional architects. The bad effect of architectural competition when dishonestly conducted is, of course, known to many besides professional architects; and our author adduces some forcible instances, as also the fallacies in connection with the get-up of the drawings. Here are some remarks upon the latter subject:—"The getting up of competition drawings with an appearance of imposing size is by no means the result of ignorance. It is managed by various pictorial devices; one of the commonest is displaying in the foreground a number of fine ladies and gentlemen on horse and foot, looking very small compared with the building. Steeples are always surrounded with flights of crows, which are evidently designed by their number in the flight and its apparent size to contribute to the grandeur of the building, and because rooks notoriously despise all but high trees. If my friend with the many-shafted pillars had drawn a congregation in his church, we may be sure he would have kept their heads far below the caps of those pillars, which would really have been hidden by their shoulders; and I am equally sure that it would not have been found out by one judge in a thousand." Next follow devices in respect of depth of shadows in giving an appearance of thickness and massiveness,

which is nowhere to be found in the finished work.

Further on we read:—"But you may ask, is there no remedy for all these difficulties and fallacies of competition? For some of them I do not see that there is, especially for the unwillingness of good architects to contend for prizes awarded by judges whom they know to be generally unqualified, and incapable of judging how their designs will look when translated from paper into stone, and who generally select the most pretentious of all the plans sent in, and the least likely to be well built for the estimate. I say well built, because the maker of the worst possible plan in this respect can always fortify himself with a contractor ready to undertake it, and who will doubtless build it somehow, relying either upon swelling his bill with 'extras' ordered by the architect, and probably necessary to be ordered because they had been omitted in the plans and specifications, of which the judges understood nothing, or else upon being allowed to scamp the work. Hence we read of cheap churches falling down before or soon after they are finished, and we learnt from a bishop's sermon [Bishop of Manchester] for rebuilding one of them that that style of work is called 'Jerry Building.' Many contracts are taken solely in reliance on these two modes of converting a losing contract into a paying one."

These statements are unfortunately too true in a number of instances, and contractors of this kind almost invariably become bankrupt before the work is half done. Many church and other building committees are, however, to blame, for they are generally composed of men who are utterly incapable of judging an architectural drawing. Favoritism and jobbery in local circles are too often rife, and "Cheap Jack" secures the contract, and the usual consequences—a dear building, and most likely a bad one, in the end, even though an honest contractor finishes it.

Sir Edmund Beckett submits a new code of conditions for competitions, but he does not pretend that they will meet all the difficulties of the case. He totally ignores the code of rules for professional practice adopted by the Royal Institute of British Architects, and holds that the Government arrangement is good, though it is open to improvement. The latter rules also ignore the code of the R.I.B.A. or those of any other society to be held binding on Her Majesty's Commissioners. The professional 5 per cent. is alluded to at some length, and it is not only inferred but asserted that the 5 per cent. is likely to become 10 per cent. in many cases before architects are done with their clients. The code of the Royal Institute of British Architects is no more a private code than the rules that govern other professions, and architects as a body are surely entitled to make their own rules. If they are found antagonistic to the well-being of the public, and inimical to the interests of the profession, they must give way to better regulations. It must not be inferred that there are no honest architects, and that it is not open to clients to make special agreements beforehand with the architects they may employ.

There is some good advice given in this "Book on Building" on the duties of clerks of works, and the results incident to the superintendence of good and bad ones, and also in respect of bad and good workmen, and of their faults, failings, and virtues.

B

* "A Book on Building, Civil and Ecclesiastical; with the Theory of Domes and of the Great Pyramid," &c. By Sir Edmund Beckett, Bart., LL.D., Q.C. London: Crosby Lockwood and Co.

Sir Edmund Beckett speaks from experience of the doings of some of the above, and we have no doubt, from our own experience of building operations, he is speaking the truth. Speaking of the unwise haste evidenced in modern building, he writes:—"It is fair to say, however, that people have often only their own impatience to blame for their woodwork failing. They will insist on having their houses finished in a year [aye, or six months, and, in the case of smaller houses, less than three months], and the consequence is that the woodwork has to be put in before the plaster is dry, and the plaster before the walls are dry. I have seen them plastering rooms in a great house after all the woodwork was in. However dry it may be, it necessarily swells with the damp, and as soon as it dries again it shrinks, and shows the defects above described. I do not see how it is possible for a house to be properly built, woodwork and all, within a year, unless indeed some kind of fast-drying cement is used instead of plaster, which otherwise requires a summer to dry in."

Many architects, builders, and other people will no doubt be inclined to smile at the above, not that there is anything strange in it, but because it is a very simple, yet true, statement. In large contracts and small, contractors in these break-neck times are bound to time in their contracts. Health and safety are not studied by either railway directors, merchants, or shopkeepers; and indeed betimes, if not very often, in Government contracts and in building offices for public boards it is the same. The "opening day" is calculated with a nicety, and perforce the building must be finished. This anxiety about the "opening day" is alluded to in a pointed manner in more than one place in the book under notice, and the fuss of preparation and namby-pamby touching and finishing that singularises its advent.

Though we have, for our own satisfaction, well nigh perused the whole of this "Book on Building," yet in this notice we have mostly confined our remarks to the first chapter, as it is an important one, for many reasons. We will again return to the volume. In conclusion for the present, let us say, though there is much to commend in this work, there still are matters that had better been omitted. Some people, and not a few outsiders as well as insiders, will interpret this book as an attack on the architectural profession and its belongings. In canvassing for the interests of the general public, it is never necessary to canvass against any section of the same public. No interest stands alone. Sir Edmund Beckett has given the public his advice and personal experience, but it remains to be seen how many will profit by them, and what will be the extent of his following.

SOME OLDEN CHRISTMAS AND CIVIC LAWS AND CUSTOMS.

THE associations connected with Christmas have been repeatedly written upon, but researches are ever turning up some new materials long forgotten or overlooked. Changes in the form of the government and national creeds of the three kingdoms, extending over the last three centuries, have worked sad havoc with ancient laws, customs, and usages appertaining to Christmas; and while many memorials of the old festival still survive in Ireland and England, in Scotland they have long since disappeared altogether, save in a few exceptional instances in which

the voice of the country is unheard or unrepresented.

Upwards of three centuries ago the Christmases of the Celt, the Saxon, and Scottish Gael were somewhat akin, but since the days of John Knox, the Lowlander has altogether ignored the olden festival, and the Highlander gives it only a faint recognition, and that only in instances of Irish and English interests perpetuated by blood, creed, and race. As we proceed we will illustrate some phases of the national character in the three kingdoms, extending over a considerable space of time. On previous occasions we cited some well-known pageants and customs in this city, but in addition we will now present the reader with some little-heard-of laws and ordinances only to be met with in civic records and town council minutes outside our own island.

Here is a civic proclamation at Christmas in London against mumming, plays, interludes, and visors, and providing that a lantern shall be kept burning before each house (6 Henry V., 1418). It was ordered by this proclamation by the mayor and aldermen, on the king's behalf, that "no manere of persone of what estate, degree, or condacour" should be so hardy in anywise during the holy time of Christmas to "walk by nyght in eny manere mommyng, pleyes, enterludes," or in any other disguises, "with eny feyned berd [beards], peynted visers, diffourmyed or coloured visages, in eny wise, up payne of enprisonement of her bodyes," or a fine, at the discretion of the mayor and aldermen; but it was lawful on the other hand for "eche persone to be honestly mery as he can with in his owne house dwellyng." Each person living in any of the high streets or lanes of the city was bound to "hang out of her hous eche night during this solemne feste a lanterne with a candell her in, to brenne [burn] as long as hit may endure, vp payne to pay [upon pain of paying] iv.d. to the Chaumbre at eche tyme that hit faillith."

The above record is in old English character, but we omit some of the contractions. In the next year of the same reign there was a civic regulation issued, ordering that the sergeants and other officers of the mayor, sheriffs, or city should not beg for Christmas gifts. Upwards of 450 years have passed since then, and begging for Christmas gifts is still in various ways in full swing. The morality of this excellent civic regulation of 1419 is so good that it is worth re-publishing now:—"Forasmuch as it is not becoming or agreeable to propriety that those who are in the service of reverend men, and from them or through them to have advantages, of befitting food and raiment, as also of reward or remuneration in a competent degree, should after a perverse custom, be begging aught of people, like paupers; and seeing that in times past, every year at the Feast of our Lord's Nativity, according to a certain custom which has grown to be an abuse, the vadlets of the mayor, the sheriffs, and the chamber of the city—persons who have food, raiment, and appropriate advantages, resulting from their office—under the colour of asking for an oblation, have begged sums of money from brewers, bakers, cooks, and other victuallers, and in some instances have more than once threatened wrongfully to do them an injury if they should refuse to give them something, and have frequently made promises to others, that in return for a present they would pass over their unlawful doings in mute silence, to the great dishonour of their masters, and to the common loss of all the city—therefore on Wednesday, the last day of April, in the 7th year, &c., of William Sevenok, the mayor, and the aldermen of London, it was ordered and established, that no vadlet or other sergeant of the mayor, sheriffs, or city, should in future beg or require of any person, rank, degree, or condition whatsoever, any moneys [Christmas gifts] under colour of an oblation or in any other way, on pain of losing office."

Government departments and public boards now-a-days wink at the practice of giving Christmas boxes to their under officials, as it

handily makes up for poor salaries throughout the year, and is a sort of inducement to ill-paid servants to make the best of a poor place. The Scotch are not proverbially a gift-giving people, and whatever may be forthcoming on New Year's Day, little or nothing, save under exceptional circumstances, is given by way of gift or oblation on Christmas Day. To understand properly the spirit that gave birth to ordinances of the Kirk Sessions, and the acts and bye-laws of the Scottish town councils, of which we will immediately present some instances, it is necessary to recollect, that the Presbyterian form of religion was totally adverse to all that was held in common with Christmas customs and observances, both in connection with the Roman Catholic and the Reformed Churches of England. Let it be remembered that the Roman Catholic religion prevailed in Glasgow from the formation of the see in 560, till the Reformation in 1560, when Presbyterianism was established by law. From 1572 to 1592, a sort of episcopacy reigned in Scotland; from 1592 to 1610, strict Presbyterianism; from 1610 to 1638, again episcopacy; in 1638, the Presbyterian form was resumed, and in 1668, the Presbyterian form of Church Government was formally fixed by an Act of Parliament for Scotland.

In the light of the above events Kirk Session and Town Council laws and ordinances will be better understood:—"December 26, 1588.—Five persons were appointed to make public repentance because they kept the superstitious day called Znill [Christmas Day]. The baxters [bakers] to be enquired at to whom they baked Znill bread." "December 22, 1586.—Persons are prohibited from going through the town with pipes on St. Thomas's Eve; contraveners to be put to prison without meat or drink, and to appear at the old Pillar on Sunday next." These were hard lines for the poor pipers or minstrels, and the very reverse of a merry English or Irish Christmas.

In this very year it was ordered in Glasgow by the same Kirk Session that "pulpit stones to be removed with all expedition, and to cause, lay them in ranks for the women to sit upon." It is doubtful if there were any pews in the churches at that time. In the following year we find that one "Jarvie the piper is accused of playing in the Saltmarket, whilk his brither's sin [son], and Martha McClelland were glaiking and dancing." "The bailies to take order with the piper." December 19, 1593.—The Kirk Session makes a long act against keeping Znill, and the keepers of it are to be punished by the magistrates, and debarred from the privileges of the Kirk, the sacrament and marriage; "also that no plays nor gysings, nor pipings, nor drink, nor any superstitious exercise be used the days following, under pain of censure." How un-English and un-Scottish are these puritanical enactments in relation to the Christmas holidays. In the next year the Presbytery of Glasgow prohibited the playing of bagpipes on Sunday from sun rising to its going down, and the practising of other pastimes after canonical hours, under pain of censure. In 1595, the Kirk Session directed the drum to go through the town that there be no bickering nor plays on Sundays, either by old or young. Games of golf, alley bowls, &c., were forbidden on Sundays, as also no person to "go to Ruglen [Rutherglen] to see vain plays on Sundays." In 1604 we find the Presbytery beginning to complain of the plurality of schools, and "they think the school taught by John Buchanan and the grammar school quite sufficient." In this year the session ordered that at banquets there should be no dancing openly in the street, playing on bagpipes, beating drums, or losing the consignment money. When such successive enactments were made for putting down the old joyous customs of the people, it need hardly be wondered that Sydney Smith, in the nineteenth century, should remark that it would require a surgical operation to extract a joke from a Scotchman. The Scotch can, nevertheless, "crack" a joke, but it takes

one of his own kidney to appreciate it properly.

On May 20, 1622, there is intimation given of the resetting of comedians, jugglers, &c., and such resetters to be punished; and the session gave instruction against drinking after 10 at night, under pain of censure. On January 19, 1625, there is an entry in relation to Christmas Day, to the effect that all travellers in town are summoned and accused of travelling on Sabbath, and yet not travelling on *Zuil Day*. Numerous other instances could be quoted from the records of the Kirk Session and Town Council down to a much later date, illustrative of the same spirit in regard to Christmas observances as those quoted. Poor strolling players, fiddlers, fifers, and pipers, fared badly in Glasgow and the Lowlands, but the town drummer seemed to be an institution worth preserving, notwithstanding the noise of his instrument. Most public announcements were made in Scotch towns by beat of drum, the same as auctions by ringing of bell. The town drummer may still be met in some towns in Scotland, and in the minutes of the Town Council of Glasgow may be met certain rules for their observance, good conduct, and their privileges.

There are several entries down to a late date about providing pillories, stocks, stools of repentance, and other instruments of punishment. The Town Council, on the 23rd of April, 1647, "ordains the Mr. of the wark [the clerk or master of the work] to caus mak a pillarie with all dilligence"; and further on in the same year we have the council ordering the same public officer "to sett up ane publict place of repentance in the new kirk and the Blackfrier kirk." This job was performed owing to the recommendation of the session, which considered more new stools of repentance were needed to keep down Scotch animal spirits and dry out spirits of another kind.

The following extracts from the Town Council minutes will show at what a low ebb the practice of music was as late as 1663 in Glasgow:—"The same day appoynts Mr. Patrick Bell and Frederick Hamiltone to meit with Rot Ingles, who offered himselfe to teache musick within this burgh, and they try what he would be att, and report."

Slowly the Town Council began to undo some of the mischief that the enactments of the Kirk Session had done in prohibiting harmless sports, and condemning even accomplishments. The Kirk indeed was anxious on the score of education, and did good work at times on that head, but it ran amuck with sports, music, and the drama.

On the 21st November, 1663, "in answer to the supplicatione given in by James Barnardon, professor of the Frenche tongue, dancing, and ffencing. After considerationn had thereof, they grant to him a license and libertie to hold and keep a schoole for that effect; and the lyk license is not granted to ay wther persone for the space of fyve yeares. As also they have condiscendit that he sall be frie, during the said space, of all impositiones and burdings, and to have ane yeirlie fiell of fourtie shillings starling."

In 1668, we find another Town Council minute anent music-teaching, to the effect: "The magistrats and counsell taking to their consideratione that this citie is altogether destitute of ane musitian for instructing the youth in the airth of musick, and seing its the earnest desyre of manie honest men, that ane able musitiane be tryed out, and brought to this place for that effect, and seeing that the bishop [bishop] is willing to bestow yeirlie upon such a persone ane hundred pundis Scots, for the mans better incuragement who is to be brought here. Its concludit that the tounne pay him yeirlie thrie hundred and fyftie marks, and that to contienue during the counsellis will and pleaser."

By a Town Council minute of 1675, we find one "John McClaine, pyper, craving to be admitted as the tounnes minstrell." His prayer was granted, and he was appointed "as commounne pyper or ministrel" within the burgh. He received yearly for his duties

one hundred marks Scots money for going through the town, morning and evening, and at such times as the magistrats, &c., appointed.

Here is a curious minute of 1646 concerning a musician required for church services, as also for keeping a school for teaching the townspeople's children:—"The said day, anent John Cant, musician, it is inacht, concludit, and agreit, that the provest baylzies an their successors in office, sall pay to him yeirlie, for the space of fyve yeirs, efter Whitsunday last, quhilk was his entrie, for to raise the psalmes in the Hie Kirk on the Sabbath, and in the Blackfreirs at the weik sermones, and for keipping of ane musick schole, fourtie pundis moneye, and with all recommends him to the Kirk Session, that he get the eight score marks yeirlie the said fyve yeirs, usit to be payet of befor to James Sanders, with fortie marks farden quhairunts thay by their presents present him, he always teaching the townes' bairnes vocall musick for threttee shillings in the quarter, and both vocall and instrumental music for fourtie schillings ilk quarter." Of course all the above payments were in Scots money, which, when reduced into English coin, grows gradually small and beautifully less.

The genius of the Scotch for centuries appears to have been adverse to theatrical representations, and their amusements, for the most part unlike English and Irish ones, were very barren. Before the Reformation and for a short time after, miracle plays were represented in Glasgow and other parts of Scotland, but from the era of the Reformation down till the middle of the eighteenth century no theatrical representations were publicly allowed. A dancing hall in the High-street was used at the above period for the purpose of theatrical representations. In 1752 a booth or temporary theatre was fitted up near the archbishop's palace, in which some noted English actors and actresses performed. The theatre opened a few years before in the Canongate appears to have been the first theatre in Scotland since the Reformation.

Sabbath observance down till the close of the last century was carried to extremes in Scotland, and we have it on reliable authority that there were families who did not sweep or dust their houses, did not make their beds, nor allow any food to be dressed on Sundays (Sawbaths). To walk the streets during divine service without a bible or a psalm-book in the hands, excited a suspicion that the stroller was a most ungodly person. Indeed the magistrats were wont to employ "Bum Bailies" for hunting the godless wanderers up, and conveying them to the guard-house. Down to our own day and at present, many Christmas, Sabbath, and other popular festival observances practised in England and Ireland, are completely tabooed in Scotland. Even railway travelling and other necessary service are railled against across the borders as wicked. Whilst London and Dublin continued their pageants and their mayors and sheriffs had their several "lords of misrule," the Scotch had their "abbot of unreason," as he was termed, suppressed by an act of Parliament in 1555. The Puritans in England were, of course, opposed to Christmas customs and ceremonies.

Of the Mysteries and Moralities and Miracle Plays common in Ireland and England, we have told in back volumes of this journal. The "Chester Mysteries" in the thirteenth century are said to be the earliest plays publicly acted in England; and these after some time were succeeded by the Moralities. The Irish clergy, like the English, occasionally exhibited the Mysteries and Moralities previous to the time of Henry VIII.; and the Lord Lieutenant, we find by a record of 1528, was invited by the civic authorities to a new play every day during the Christmas festivities. The trades' guilds each represented the story of their trade and patron saint on such occasions. Later again, the corporation of the city took a prominent part in getting up exhibitions and pageants, supplying per-

formers, scenery, machinery and dresses. The memory of these pageants continued to be preserved in the franchises that were ridden triennially in Dublin under the old corporate rule. Civic Christmas customs for some centuries continued in many ways nearly alike in London and Dublin; though in domestic circles there were differences, as also in Church ceremonies in the churches of the majority of the people of each country. The domestic Christmas, however, to-day of the Celt and the Saxon are nearly alike in all their joyous surroundings and associations.

As to civic pageants of a public character, there are now little or none connected with Christmas in London or Dublin, though the "Boxing Night" in both cities has become a sort of institution. The new Lord Mayor in London still comes in in November, but the Dublin Lord Mayor, since the advent of the "Reformed Corporation" in 1841, instead of coming in at Michaelmas, enters on New Year's Day, in the midst of a pageant sadly shorn, and but the shadow of bygone days. The Scot is oblivious to Christmas Day—it has no merry or joyous associations for him as for us; and, while looking forward to extract from New Year's Day or St. Andrew's joys and greetings to satisfy his longings, we are sure the Saxon and the Celt will not grudge him the honours of his anniversaries, celebrated as they are (to use his own words) for the sake of "Auld Lang Syne."

INSTITUTION OF CIVIL ENGINEERS OF IRELAND.

THE annual general meeting of the above body was held in the Museum Buildings, Trinity College, on Wednesday evening, the 6th inst., Mr. Alexander M'Donnell, C.E., in the chair.

The business announced for the evening was the election of officers for the ensuing year, and a discussion on Mr. G. H. Kinahan's paper "On Piers and other Sea Walls, and Natural Sea Margins," read at former meeting (1st November), which we print on another page.

Mr. Kinahan explained the object of his paper by reference to numerous drawings hung on the walls.

The hon. secretary (Mr. Charles P. Cotton) read a lengthy communication on the subject of the paper from Mr. J. P. Griffith, in which he referred to the design and construction of our national breakwaters, which, scattered round our coasts in every variety of exposure, and on which millions have been spent and the highest professional ability employed, were far from being satisfactory. He classified breakwaters under three heads—1st. The vertical wall; 2nd. The long slope, pitched on the surface, or composed merely of loose rubble with or without a superstructure of masonry; and, 3rd. The vertical wall founded on a rubble base at such a depth below low water as to be free from the disturbing action of waves; and instanced Dover pier as an example of the first class, but its enormous cost—over £360 per lineal foot—proved an obstacle to its adoption. Plymouth, Alderney, Holyhead, and Portland were examples of the second class. He also instanced the piers at Wick, and the entrance to the North Sea Canal, as examples of construction by founding the vertical wall on the rubble mound at such a depth as to preclude the possibility of damage to the mound from wave action, giving extracts from the engineer's report of the former work, and concluded by alluding to wave force.

Communications were also read from Mr. A. Wyley, late of the Geological Surveys of Ireland and of the Cape of Good Hope, and from Mr. Stokes.

Mr. Bindon B. Stoney, who had listened to the reading of the paper with great interest, made some remarks relative to the action of waves in moving masses of stone on the Dublin and Holyhead breakwaters, and round our coasts, and to the Bull, Cow, and Calf islands on the coast of Kerry—a

matter which was touched on in our last issue by Mr. Wm. Hughes.

The ballot then took place, and resulted as follows:—*President*—Robert Manning. *Vice-Presidents*—John Bailey, James Price. *Other Members of Council*—James Dillon, John P. Griffith, Thomas Fitzgerald, Thos. F. Pigot, James Andrews, Henry Johnston, Charles Geoghegan, Thomas Martin. *Hon. Secretary*—John Chaloner Smith.

"THE COMPLIMENTS OF THE SEASON."

We have received the annexed *Christmas Box*, and we lose no time in taking the public into our confidence, and making them participants in the "good news":—

Tivoli, Clontarf,
7th December, 1876.

SIR,—My attention has been directed to an article in your last number, in which a grave charge is made against my professional character. Unless the charge is withdrawn, and an ample apology is inserted in your next number, I will place the matter in the hands of my solicitor.—Yours,

ARTHUR L. COUSINS.

To the Proprietor of the
IRISH BUILDER.

Short and sweet, truly; and, being called upon to plead, we answer "Not Guilty." No doubt some of our readers are impatient, and want to know what it is all about. In our last there appeared an article headed "The Glasnevin and Drumcondra Drainage Schemes," in which we criticised fairly and honestly according to our lights, two plans for the proposed drainage of these districts, prepared respectively by the complainant and Mr. P. J. Leonard, C.E., both of which were submitted to the North Dublin Union Sanitary Board. We took certain objections to both in the interest of the public, and pointed out some of their shortcomings. We said Mr. Leonard's scheme was faulty in the matter of outfall though good otherwise, making due allowance for the difficulties in connection, and we spoke in favour of irrigation as proposed by Mr. Cousins, but said—

"As much as we are in favour of irrigation schemes and the utilization of sewage, we must honestly say that Mr. Cousins's report is not at all a satisfactory one. Some of his suggestions are worthy of consideration, but his scheme as at present propounded would not work—that is, it could only be worked at a great outlay and a great loss, viewing the present circumstances of Glasnevin and Drumcondra, and even looking a-head for some years to come."

Where is the libel here?—we fail to see it. But hold! in looking again over our article we find that we had previously written—

"We have read through Mr. Cousins's report, and, without desiring to be fault-finders, we must say on many points he is most indefinite, and he writes in a very uncertain manner on a very important subject. He shows a great want of confidence in his report, and we are forced to read his scheme as a whole more as a recommendation or a suggestion worthy of consideration than as a scheme of which he has faith in himself, and is certain ought to be carried out. He indicates a good many things, but positively expresses few, and his scheme is buoyed with hopes and anticipations of relief to be afforded by the future Main Drainage scheme."

Perhaps the rank treason alleged is to be found in the last extract, but we fail to see any "grave charge against his professional character." No doubt Mr. Cousins as a personal matter believes his scheme is, or would be, a good one when fully developed, but he should have given the public stronger reasons and clearer practical information in his present report if he wished them to arrive at the same conclusions as himself.

Let any number of unbiassed professional men read his report through, and we are

much astray if they are not dissatisfied with it as a whole in its present shape, though they may agree, as we do, with some of his recommendations. We have no personal interests in the matter one way or the other, and it is immaterial to us whether Mr. Cousins's or Mr. Leonard's scheme is adopted. Both gentlemen are almost totally unknown to us, and the schemes were criticised solely on their merits. Surely a professional journalist can express his honest opinion on matters of public interest without being called to order by thin-skinned persons. It is not our province or duty to distribute indiscriminate praise, and to speak in unqualified terms of every scheme or project coming before the public. Engineers and architects, as well as other men, must submit to the brunt of fair public criticism, for the good of the many needs to be studied, and not the individual interest to the exclusion of the former. This is our explanation, and we have none other to offer, or none more becoming our duty as professional journalists.

Although, perhaps, unnecessary, we may as well state that we duly acknowledged the receipt of Mr. C.'s favour of the 7th, and asked him to refer us to the particular passage in our leading article of which he complained. His reply reaches us as we go to press. It is as follows:—

Tivoli, Clontarf,
13th December, 1876.

SIR,—Owing to the quantity of mis-representation and wrong information in the part of the article which refers to me, that part constitutes a scandalous attack upon me. You must know that to state that I recommended a scheme in which I had no faith is to make a charge of the most serious description. It is utterly untrue and unjustifiable. Besides withdrawing the charge and inserting an ample apology in your next number, if you desire to act honourably you would publish my report, to allow your readers to compare it with the article.—Yours,

ARTHUR L. COUSINS.

Did time and space permit, we might have gratified the writer's desire to have his report printed *in extenso*, in order "to allow our readers to compare it with the article." How is it that the author has not favoured us with a copy of his report?

RE ST. STEPHEN'S GREEN.

It is to be hoped that all the difficulties to the opening of St. Stephen's Green as a public garden for the use of all classes of the people, have been removed at last. It might have been opened long since if the Corporation had only acted in a sensible manner. The Corporation have now consented to withdraw their compulsory bill, and the Commissioners to forego their Chancery proceedings, and Sir Arthur Guinness renews his generous offer.

It is now taken for granted that the Government will take charge of the Green, and maintain it in a similar way as other royal parks are maintained. The Corporation relinquishes the annual rent of £270 a-year received from the Commissioners, and in the event of the Government doing what is required, the municipal authorities will give a gratuitous supply of water for the intended fountains, and we hope also for any lakes, if such are constructed. It is calculated that the annual outlay of the Government for the maintenance of the Green as a public park would not be more than £1,200, though it may be more, for the outlay in all the royal parks fluctuates according to circumstances and called for improvements.

If the Government undertakes the management, the city will get rid of a direct tax of £600 or upwards, which would be required otherwise for its maintenance by the city. We do not anticipate that the Government will offer any objection; but should they

decline to maintain St. Stephen's Green as a public park, the Corporation are bound, on behalf of the city, to take at once the necessary steps for the free opening of St. Stephen's Green.

We have for long years, in the interests of the public health, advocated the free opening of the Green to all classes, and of other public squares in Dublin, north and south. The former, once opened, will pave the way for the free opening of the latter. At present it is only a foolish prejudice that stands in the way. Properly laid out and maintained, they would be places of ornament and health, but now, save for a short time in the summer, our public squares are places of gloom. If the city of Paris possessed our large squares, they would soon be transformed into splendid ornamental as well as health-giving places.

BOOKS RECEIVED.

The Journal of the Royal Historical and Archaeological Association of Ireland. Vol. iv., Fourth Series. Nos. 25 and 26.—The Rev. James Graves continues his paper on "Unpublished Geraldine Documents," and it, with the quarterly report, occupies the entire part. Amongst the illustrations are, a map of the Parish of Downe and Longe, in Costlea Barony, in Limerick; views of Castle of Ballynahinch and Castle Grace, with ground plans of same, &c.

A Manual of the Historical Development of Art, Pre-historic—Ancient—Classic—Early Christian, with Special Reference to Architecture, Sculpture, Painting, and Ornamentation. By G. G. Zeffi, Ph.D., F.R.S.L. London: Hardwicke and Bogue.—A notice of this work (which came to hand the day previous to the date of this publication) must be held over until our next.

Eason's Almanack and Hand-book for Ireland for the year 1877. Dublin: W. H. Smith and Son.—For variety of information in a small compass the fourth issue of the above almanack must be commended. The compiler has been anxious to leave as little as possible for fault-finders to take hold of; with all his care, however, the book has still many inaccuracies, the majority of which would not perhaps be noticed by the general public. Some tables given are of no value whatever, and we would recommend their omission in future issues.

Calvert's Mechanic's Almanack and Workshop Companion, 1877 (Manchester: John Heywood).—This excellent little four-pennyworth is for the first time before us, although it has already reached its fourth year of publication. From a careful perusal of its varied contents, we can safely state that there is not a page from cover to cover in which not only working men, but individuals in every station of life will not find instructive matter, as well as tables and hints for hourly reference. We understand that in each year's issue there is a change in the general contents of this brochure, so that purchasers are not served with old stereotyped information. A well-engraved portrait of Sir Joseph Whitworth, Bart., forms a frontispiece to the almanack.

DOINGS IN ARMAGH.—The Armagh Board of Guardians have presented a memorial to the Lord Lieutenant in reference to the late inquisition as to the £3,500 voted by the jury in case of the additional land required by the governors of the Lunatic Asylum. The guardians object to the voting of the above large sum for about 12 acres of land at the rate of £300 per acre. The guardians propose to appropriate a portion of their workhouse for the reception of a number of the harmless lunatics in asylum. They ask his Excellency to interfere to prevent further proceedings being taken by the Board of Works, until further investigation of the reasonableness of the proposal.

THE PAST AND PRESENT OF ARCHITECTURE IN IRELAND.*

THE subject on which I propose to address you this evening is "The Past and Present of Architecture in Ireland," and I may possibly add some anticipations as to its probable future. Recognizing the presence of so many who, though taking an interest in our art are not professionally connected with it, it seems most fitting that I should endeavour to deal with the subject in a popular rather than technical manner. The details of architectural practice, the troubles and difficulties experienced by its professors, however fitting subjects for papers and addresses to be read before purely professional audiences, can hardly be of much interest to the general public; the results of that practice as they appear in the buildings of past and present times must command the attention of all who may be possessed of intelligence and taste. The controversies which agitate the surface of the architectural world are not altogether unimportant to the public; above all, the hard-fought "Battle of the Styles," still waged, with doubtful result, and which, if ever decided, must be by the verdict of the public, and not of architects.

When we contemplate the past of Irish architecture it is necessary to limit the field of observation somewhat, and to relegate a long period to the region of antiquarian rather than architectural interest. Our national poets have been wont (like poets as usual) to sing of the glories of former times compared with the degeneracy of later ages. Those nations of the world whose past has been great and glorious have generally some other evidences of it besides poetic rhapsodies, and amongst these none are more enduring or conclusive than architectural monuments. Tried by this standard, we must admit that the remains of what I shall call the first period of Irish architectural history, namely, that prior to the Anglo-Norman invasion, do not attest any such great or glorious age as some of the poets would have us to believe, but, nevertheless, they are of deep interest to the antiquary, and we are especially indebted to our countryman the late Dr. Petrie for his investigation and illustrations of them. Other labourers in the same field have followed, some of whom have extended their investigations to later periods; amongst whom Mr. George Wilkinson, the Earl of Dunraven, Mr. Marcus Keane, and the late Mr. Richard Rolt Brash, of Cork, deserve honourable mention. I understand that an important work of the last-mentioned lamented gentleman remained unpublished at the time of his death, which it is to be hoped will appear ere long. One of our members, Mr. Arthur Hill, of the same city, has devoted much time and attention to the geometrical delineation of these monuments, and has published clear and complete measured drawings of Cormac's Chapel, Ardferf Abbey, and other churches. Another young Irish architect has carefully measured and published drawings of Holy Cross Abbey, County Tipperary—a most interesting specimen of the ecclesiastical architecture of Ireland during the mediæval period, or that between the Invasion and the reign of Elizabeth. It is much to be desired that these separate and scattered illustrations could be collected and added to, so as to present a complete series of illustrations of the ancient and mediæval architecture of the country, to do for it something like what the works of Britton and Billings have done for that of England and Scotland. Although possessing little of the magnificence of contemporary structures in France and England, the remains of mediæval architecture in Ireland are distinguished by a simplicity and truthfulness of design and construction, a skilful adaptation to the local materials, and by some marked differences of style from contemporary buildings in England, which make them deserving of close study. It is

gratifying that so many of them have been recently placed under professional supervision by the Government, and it is to be hoped their preservation from further ruin and decay will be the first object. Restoration it is almost dangerous to speak of, ending so often as it has done in total confusion and obliteration.

The next or third period of Irish architectural history, comprising the reigns of Elizabeth and the Stuarts, deserves more attention than has yet been bestowed on it. In this country, as well as in England, this period was distinguished not so much for the ecclesiastical as for the domestic buildings erected in it. The fewness and comparative poverty of the resident nobility and gentry of Ireland during that period, and the restless and disturbed condition of the country prevented the erection of any such extensive and sumptuous piles as Wollaton, Longleat or Hatfield, and some attempts that were made in Ireland to rival those stately mansions seem to have been sadly interrupted; nevertheless there are some to be met with in different parts of the country highly interesting as architectural studies, and not the less so because they are often not altogether dissociated from the families to which they originally belonged. I may mention Leimaneigh Castle, in the County Clare, the ancient seat of the O'Briens; Donegal Castle, Ballyvourney Court, County Cork; and some others illustrated in Mr. Wilkinson's work, some of which would be well deserving of restoration and occupation, if but some of our local nobility and gentry could be induced to recognise the superior interest attaching to such a restoration, than to the erection of a brand new stuccoed pile, or mock feudal castle, which so many of them seem to think the acme of architectural excellence.

The fourth period into which I shall divide my subject (and it must be borne in mind that all such divisions are necessarily imperfect and conventional) is nearly coeval with the eighteenth century. This is doubtless a very important period in the political as well as architectural history of the country, and the one is intimately connected with the other. A well-known writer and participator in the transactions of the latter part of the century, the late Sir Jonah Barrington, characterises that century as having witnessed two events of no small importance, viz., "the Rise and Fall of the Irish nation." There are some of us who presume to think that the historian should have carried his researches a little further back as to the rise, and left the history of the fall to be written by posterity. However that may be, it is unquestionable that most of our really great and noble buildings were erected not only during that century, but during the precise period of it which Sir Jonah selects for his history. The growing powers and importance of the Irish Parliament, culminating in the Declaration of the Volunteers in 1792, and ending in the Act of Union in 1800, had a most important influence on the architecture of the time. During that time, the more settled and prosperous condition of the country enabled the nobility and gentry to erect more stately and sumptuous mansions on their estates than had ever existed before. The holding of parliament in Dublin required their attendance there for a great part of the year, and hence led to the erection of lines of stately town residences that still impart so much of dignity to our capital city. The Parliament House itself, great part of the Castle, the Law Courts, Custom House, and other important public and national edifices bear witness that, whatever may have been the misdoings of the old Irish Parliament, it was not deficient in architectural taste, and displayed an honourable ambition that the public edifices of Dublin should not suffer by comparison with those of any other European capital. The late Lord Macaulay, while asserting in one of his essays that "there never was a more corrupt and tyrannical parliament than that which sat in College-green," is obliged to admit in one of his

letters that "the public buildings of Dublin (the work of the same parliament) would be thought magnificent even in Paris." Whatever good it may have accomplished, the Union certainly inflicted a terrible blow on the development of architectural taste in Ireland, by at once sending the cream of our nobility and gentry to spend their winters in London instead of Dublin; but it will be my pleasing duty to acknowledge shortly that the blow, however terrible, was not fatal, and that in the last period into which I shall divide my subject, namely—that since the Union—no small amount of progress in architecture and the kindred arts has been witnessed.

The eighteenth century formed an important epoch in the architectural history of England as well as of Ireland. The Renaissance or revival of classical architecture can scarcely be said to have been complete in the preceding century there; but in this it was fully accomplished, and it is remarkable that during the whole of the century we see or hear nothing of any style being practised but one. The early part of the seventeenth century was distinguished by a large admixture of Gothic elements with Classic; the portion of the nineteenth which has elapsed has seen the adoption of nearly every style that has ever appeared; but during the eighteenth century, in Great Britain and Ireland at any rate, but one style prevailed, which we may call Anglo-Classic or Hiberno-Classic, according to locality. It was certainly a great advantage to the architects of that time that they had not to fritter their energies on an endeavour to master the principles and details of several styles, but, having thoroughly acquired those of one, could devote themselves to pushing it to the utmost point of excellence of which it was capable.

At two periods in the present century it became the fashion to decry without mercy everything that belonged to the style just referred to. One was early in the century, when the discoveries of Stuart and Revett led to the introduction of Greek forms and details; and the other somewhat later, when the works of Rickman, Pugin, and others led to the Gothic revival. All that was not Greek in the first case or Gothic in the second was looked on as beneath contempt. The beauty of it was that the Gothic revivalists had no mercy on the Greeks any more than on the sober Anglo-classicists before them; and, after many years of bitter controversy, it was suddenly discovered that there was great merit in certain buildings of the early part of the eighteenth century, and under the name of the "Queen Anne style," the style of that century seems likely again to become the fashion.

Independently of these vagaries of fashion, it must be allowed that the most substantial, splendid, and conspicuous monuments of architecture in Ireland are those of the eighteenth century. It was generally admitted that the public buildings of Dublin at the close of that century (as they appear in the drawings of Malton) were rather beyond than behind what might be expected for such a city. The Castle then assumed its present form, with the exception of the chapel (added in the next century); the western front, chapel, hall, and library of the University were erected; the Houses of Parliament, Custom House, Law Courts, and Exchange all erected; though at the Union considerable alterations were made in the Parliament House to adapt it to the present purposes of a bank. Albeit the work of several successive architects, it is a building of which Ireland may well be proud. Classical in detail and symmetrical in arrangement, it is yet original in composition, and produces an effect peculiar to itself, but different from any other classical building I know of. We never see St. Paul's without being reminded of St. Peter's; the Capitol at Washington reminds us of both; nor can we see the Madeleine without thinking of the Parthenon; but the Bank of Ireland is unique. I never can cross College-green without a good look

* President's address, delivered at opening meeting of Architectural Association of Ireland, by Mr. William Fogarty, F.R.I.B.A.

at it. The Custom House stands as a splendid memorial to the genius of James Gandon, whose life by Mulvany is well worthy the perusal of all architectural students. The Four Courts, originally planned by Thomas Cooley, were completed by him. Until the completion of the new buildings now in progress, London will have no such complete law courts; and the distinguished architect engaged on these latter, however ultra-Gothic in his tastes, was glad to borrow a few suggestions from the Dublin ones, although now about one hundred years old. The Royal Exchange (now the City Hall), also the work of Cooley, has been thought worthy of reproduction by our American cousins in Philadelphia.

Besides these great public buildings, the number of splendid private mansions erected both in Dublin and the country during this period is past counting, and, taking both together, we may look on it as the Augustan age of Irish architecture. A comparison of the court end of London at that time—including the classic district of Mayfair, and the town houses of the Earls of Chesterfield and Burlington—with the corresponding districts of Dublin, would not be at all unfavourable to the latter city. Foremost amongst these town houses (or *palazzi*, as they would be called in Italy) comes Leinster House, a noble and complete specimen of the aristocratic mansions of the time, the proportions and details of which are well worthy of study on the part of our younger members. Then we have Powerscourt, Tyrone, Charlemont, Aldborough, and numerous other stately mansions, not unworthy of mention beside the palaces which line the Strada Nuova at Genoa or the Corso at Rome. The house of the Provost of Trinity College is from a design by the Earl of Burlington, the most distinguished architectural critic and amateur of his time. Degraded as, alas! so many of these noble mansions are from their former uses, they yet impart a spaciousness and grandiosity to the portions of the city in which they are situate, that we should be sorry to lose. As the special correspondent of *Punch* observed recently, they make Dublin look "old-fashioned and highly respectable."

The country mansions of the corresponding time are nearly always conceived in the same grandiose and symmetrical manner, and are particularly remarkable as compared with more modern structures for their sound and durable construction. They do not compare unfavourably with those erected at the same time in England, illustrated in the *Vitruvius Britannicus*, except that we have no such princely and sumptuous ones as Blenheim, Castle Howard, Kedleston, or Wanstead. Nevertheless, Carton, the seat of the Duke of Leinster; Powerscourt House, County Wicklow; Ardracran, the palace of the Bishop of Meath, and others too numerous to mention, present fair specimens of the Hiberno-Classic country house, and are distinguished by the same stateliness, symmetry, and solidity as the contemporary great houses in England. Some of the great architects of the latter country were glad to come over and execute commissions in Ireland—in particular Sir William Chambers, one of whose choicest works, the Casine at Marino, erected for the Earl of Charlemont, is within half an hour's drive of Dublin, and is richly deserving of being measured and delineated by architectural students. I observe this property has been recently advertised for sale; let us hope, if cut up—as it is likely to be—into lots for villas, that this charming work of a great master will be respected, and not altered into a Cockney villa or, worse still, a public house.

I have referred to the solidity observable in the construction of the buildings of this period. I might further draw attention to the elegance of the details and the richness and variety of the internal decorations, especially of the ceilings and chimney-pieces. The plaster-work was commonly wrought by hand by real artists, instead of being cast mechanically by common workmen. As

for the chimney-pieces, it is remarkable that numbers of them which had been taken down and replaced by modern rubbish, having been cleaned up and re-polished by some of our local marble workers, have fetched high prices in England, the recent revulsion in favour of the Queen Anne style having brought their good points into notice.

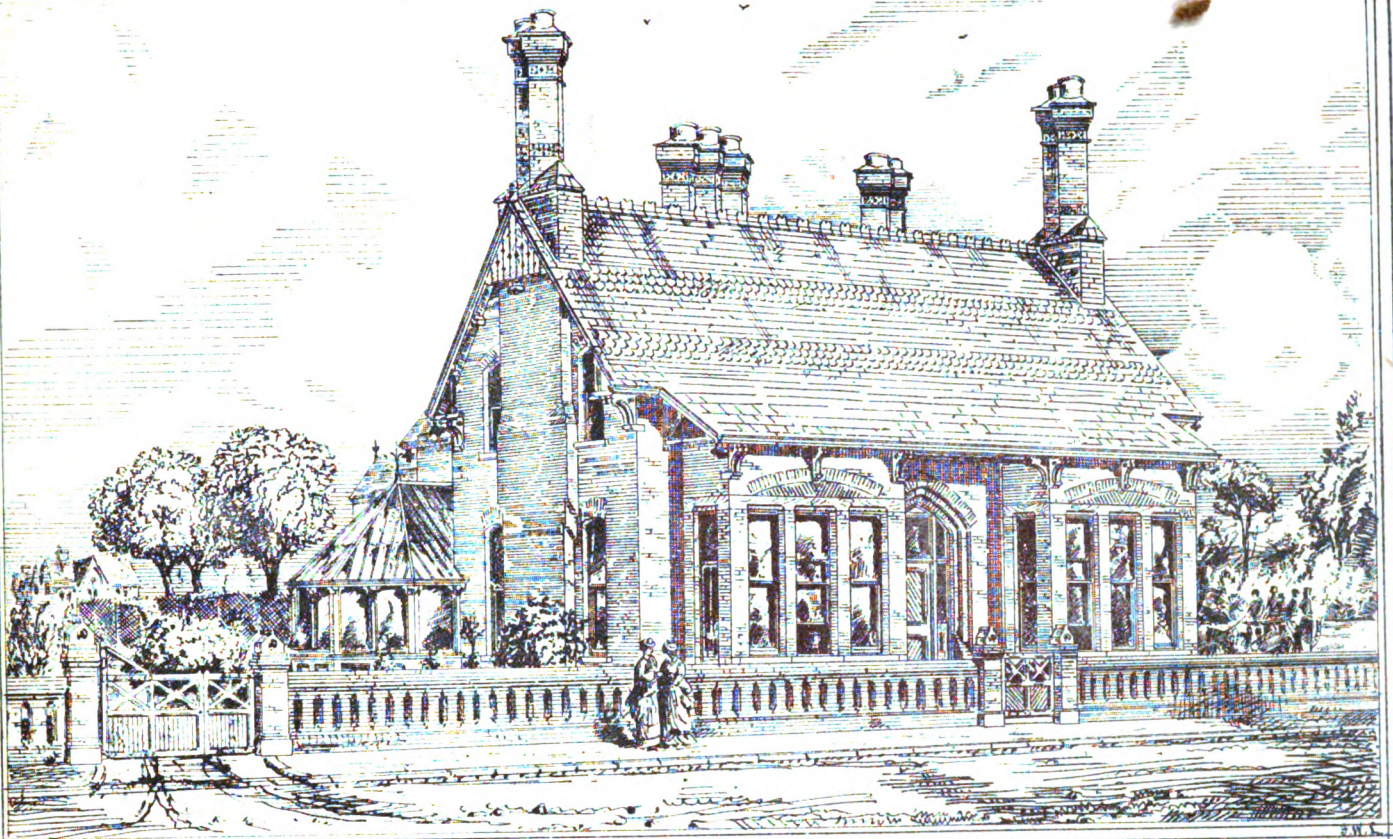
This architectural era closed with the Union, and brings us within a generation of the present. I have often wondered what a plight Dublin must have been left in by that important measure! How the lines of stately mansions must have looked after the departure of their aristocratic inmates! It is an ill wind blows no good; and soon we find the leading members of the legal and medical professions taking up their abodes in the deserted houses of the nobility. Dr. Bolus moves from Kildare-street into the house of the Earl of Poldoody in Merriem-square; Mr. Counsellor O'Fee, late of York-street, takes up his quarters in the deserted mansion of Lord Kilgoblin in Stephen's-green. Some of the houses are found too big for the new inmates, even for the swell doctor or portly counsellor, and have to be divided into what, to use an Irishism, we may call two unequal halves—one retaining the spacious doorway, hall, and grand stairs, the other having to put up with the servants' stairs, a new doorway being made into it. For many even a worse fate is reserved. This is turned into a Circumlocution Office, that into a Hospital for Incapables; another is purchased for a mere song by a firm of dry goods merchants; another, still worse, cut into tenement houses! Sad it is to contemplate these reverses, and the sooner we pass from them to something more cheering the better.

The architectural history of Ireland during the thirty or forty years following the Union, is not altogether so meagre as might be expected. Two leading practitioners seem to have flourished in Dublin—Francis Johnston and Sir Richard Morrison,—acquiring both fortune and fame by their practice. The Post Office, College of Surgeons, and St. George's Church are amongst the works of the former. The church is worthy of notice as by far the most stately of the parish churches of the city, and worthy to compare with some of the best works of Wren, or his pupils Gibbs and Hawksmoor, in London. He also added the chapel to the Castle—a good specimen of the Gothic of the time. Mr. Johnston deserves honourable mention for his munificent gift to the Royal Hibernian Academy of the present house. He was one of the first presidents of that body. Sir R. Morrison enjoyed a large practice in country mansions, for which a kind of sham castellated style was then the fashion, and also achieved a reputation for his knowledge of Greek architecture by the two large Roman Catholic churches of Marlborough-street and Westland-row. In the south of Ireland the Paines (one of them is still living—I believe the oldest architect in the kingdom) enjoyed a large practice. Mitchelstown, Dromoland, and Loughcooter castles, and nearly all the county and public buildings of the province of Munster erected during their time, were by them. It is to this period we owe the Theatre Royal, the interior of which—whether for size, proportions, or decoration—ranks high amongst those of the chief cities of the world, but which, in common with most of the London theatres, suffers much from its surroundings and squalid exterior. The extension of Dublin, Limerick, and other cities by the building of new streets and squares which took place during the same period is very remarkable, having regard to the adverse influence of the Union on the number of resident gentry.

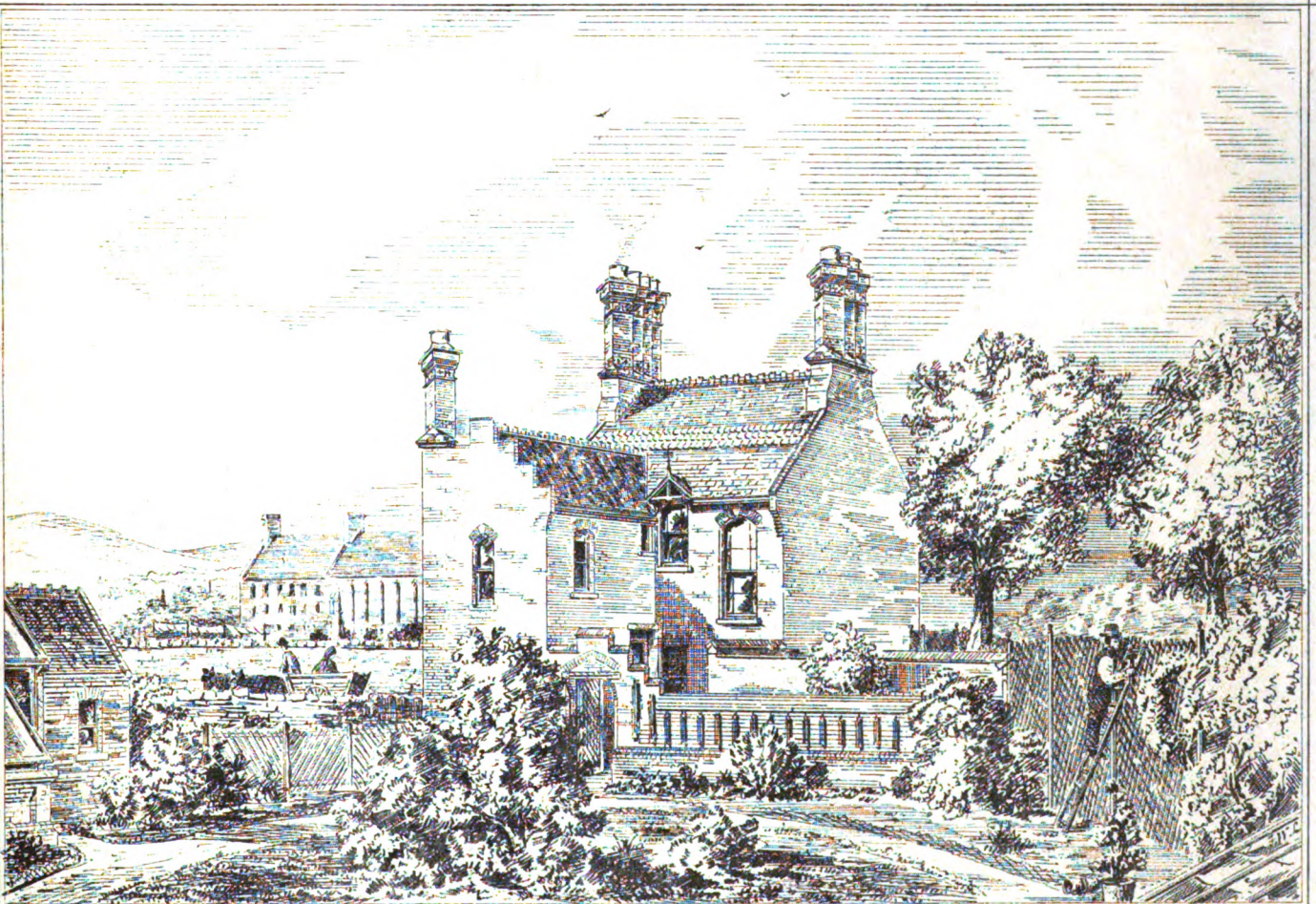
We now come to the present, meaning the lifetime of the present generation; and while we may not be able to point to progress equal to that of other countries, it is gratifying that we can still point to much. The introduction of the railways gave a great impetus to architecture in the buildings connected with them, and those erected by some of our leading lines—e.g., the Great Southern and

Western and the Midland Great Western of Ireland—are decidedly above the average. It is to be deplored, however, that the really noble termini of these lines are in out-of-the-way places, while two of those which occupy commanding positions—namely of the Wicklow and Kingstown lines respectively—are mean and contemptible in the last degree. Let us hope that, as there has been an enormous advance in the value of railway property recently, owing to the increased traffic of the lines, the attention of the directors will be given to providing more suitable and dignified buildings at these important points. The banks have nearly all found it necessary to rebuild their head quarters, as well they might, considering the enormous increase in their deposits and dividends. Most of these buildings are honourable to our profession, in particular the Hibernian Bank, just completed by our late president, which, for vigorous and original treatment, solid construction and careful arrangement, will compare favourably with any similar structure I know of. The number of country branch banks erected is beyond all counting, and, though of course modest in comparison with their metropolitan head quarters, they are generally neat and appropriate buildings. Some of the provincial cities—notably Belfast and Cork—seem determined to be no way behind Dublin in the style of their bank as well as other public buildings. Next we have the insurance companies, which, although their head quarters are usually located on the other side of the Channel, find it important to have their Dublin offices spacious and attractive, and have built, or are building, numerous handsome structures. We have then the warehouses and shops, of which the proprietors, too, seem to become at last alive to the fact that well-designed buildings for trade purposes are good investments.

When we come to notice the churches of all denominations erected during our last period, however, the progress is most remarkable, and were we to judge by them alone, we might still claim for our country its old appellation of the Island of Saints. The returning Irish emigrant, fresh from the grandeur of Fifth-avenue, New York, sees on the heights of Queenstown a stately cathedral rising, and when he goes up to the fair city of Cork, sees there another already risen, with neither of which New York, for all its boasted wealth, can as yet show anything to compare. If he goes on to Dublin, he sees there the venerable pile of St. Patrick's restored, and the other cathedral of Christ Church in process of restoration, all being accomplished either by voluntary contributions or single-handed munificence. Two stately fanes rise over the primatial city of Armagh, to mark the seat of Ireland's great apostle, erected in the same manner. Dr. Neilson Hancock has pointed to the statistics of the deposits in banks as evidences of the prosperity of the people, but perhaps another corroborative index would be found in the number and stateliness of the buildings erected by the various religious communities. The Roman Catholic Church stands first in point of numbers, and it must be gratifying to the members of that church to reflect that at no period in Ireland's history were so many and such noble buildings erected for its worship as during the last twenty-five years. It is rumoured that a metropolitan cathedral for the arch-diocese of Dublin is projected, that in Marlborough-street being only now called a pro-cathedral. Let us confidently anticipate that it will be a worthy one, and mark an important period in the architectural history of the country. Then if we look at the recently Disestablished Church, we shall find no such signs of weakness such as were feared from its new position. The extinction of the Ecclesiastical Commissioners, with its mechanical system of building and repairing churches, has been no great loss architecturally. The liberality of the laity is now called forth, not to be put to the blush by their Roman Catholic countrymen, and a field of practice, hitherto almost closed by the official system, is now thrown



COTTAGE VILLA at FORTBRIDA PARK, BELFAST. for JOHN COYLE ESQ. THOS JACKSON & SON, ARCHTS.



GARDEN FRONT of 2nd VILLA at FORTBRIDA PARK, BELFAST. for JOHN COYLE ESQ. THOS JACKSON & SON, ARCHTS.

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open to private architects. If we are to judge by the crowded state of the churches in the suburbs of Dublin, more will soon be required, and let us hope that correct canons of taste will be recognised in them. And if we look further at some denominations not hitherto remarkable for their appreciation of architecture, we see much that is hopeful. One of the handsomest churches in Dublin was erected some years ago for the Presbyterians in Rutland-square by a private individual; and a church has been just built and handed over to the Wesleyan Methodists in Belfast by another, which is acknowledged to be the finest building yet erected anywhere for the worship of that wide-spread body—an especial honour both to Irish Methodism and the eminent Irish architect who designed it.

The lunatic asylums of the country have nearly all been enlarged, and many new ones erected during a short period; and at present several of the Dublin hospitals are being enlarged, let us hope, to increase their efficiency, and maintain the prestige of the Dublin medical school, which owes so much to them. Buildings for pleasure and recreation have not been neglected, new theatres having been erected in Dublin, Belfast, Cork, and Waterford. The Dublin Exhibition Palace, although a financial failure, has served important purposes, and may yet with its gardens become a pleasant place of resort and recreation, which seems to be fully the case with our new and fashionable skating rinks.

If we are to believe the statistics already referred to (putting Dublin for a moment out of the question) a larger proportion of our nobility and gentry now reside on their estates, and for longer periods than at any former time. This is a most hopeful sign, and leads me to remark that of the number of new mansions on a large scale erected throughout the country is not great, yet the style and finish of those that have been erected of late shows a great advance. There is, however, a pretty extensive demand for a more modest type of country residence, especially in the environs of Dublin, Belfast, and Cork, and suburban villas on a smaller scale are still more in request. These latter, it is to be regretted, are too often handed over to the tender mercies of the speculative builders, who have filled the otherwise pleasant townships of Rathgar, Pembroke, Kingstown, and similar places with snug-boxes or terraces neatly faced or wiggled with red brick, but the bareness of whose flanks and ere is most disagreeable, to say nothing of the flimsy construction and the little comfort to be had within. It is rare to meet one displaying any care or taste in its design—a most unsatisfactory state of things which it concerns both our profession and the public to remedy.

We have spoken much of the mansions of the nobility and residences of our wealthy middle class; something should be said relative to those of our working population. I fear that, neither as regards past or present times can anything congratulatory be said on this subject. The dwellings of the peasantry and town working people of Ireland have been too long a reproach, but they were, and are still too commonly looked upon as beneath the notice of architects or outside their province. With the increase of wages, and abundant employment which we have witnessed of late, this is a state of things which ought to find a remedy. I am glad to observe some efforts being made in that direction by the formation of an industrial tenements company, with a competent professional adviser; and it is to be hoped among the good things which the future has in store, the amelioration of the dwellings of the working classes will not be wanting.

A bond of union and means of communication for our profession in Ireland, and with our brethren who practise the same art in Great Britain, is still a desideratum. On this subject the recent address of the president of the Royal Institute of British Architects contains most valuable suggestions, which

will be endorsed by every sensible architect in this country. Although deprived of much of its political importance by the Union, the city of Dublin possesses many advantages as a centre for architectural education and practice, which it behoves us not to let slip. Its university, theological, medical and legal schools enjoy a world-wide reputation. Why should it not take fair rank for its architectural school also? Having had occasion to note so much that is great in the past and encouraging in the present, let us look forward with hopeful eyes to the future.

VILLAS, FORTBRED A PARK.

THE two cottage villas shown in the illustration with the present number have just been erected at Fortbreda Park, adjoining the Newtownbreda-road, Belfast, for John Coyle, Esq. The materials are—red brick, with Scrabo and Dumfries stone sparingly introduced in cills and keystones, &c.; purple slates with green bands in roofs; Ashton and Greene's red fancy ridge tile and terra cotta (Peake's ferro-metallic) bands in chimney-stacks. The outside woodwork of roofs is stained and varnished, and the inside work is pitch pine, which will be either varnished or French polished. The hall, verandah, and passage from front gate of the larger house are laid with Minton's encaustic tiles.

The total cost, including boundary wall and gates, is about £2,500.

The buildings have been erected from the designs and under the superintendence of Messrs. Thomas Jackson and Son, architects, 5 Corn-market, Belfast; Messrs. Dixon and Co., of the same town, being the contractors.

ON PIERS AND OTHER SEA WALLS, AND NATURAL SEA MARGINS.*

NATURAL SEA MARGINS.—An examination of the seacoast demonstrates that certain rocks resist the sea better than others, while the lie or position of the strata also have a material effect. A sea margin may be hard rock or soft sand, yet under certain conditions the latter may resist the inroads of the sea better than the former.

There are general characters, positions, and forms of the rocks which seem best to resist the actions of the waves; to these it is proposed to direct attention. Generally in rocks there are two conspicuous structures, or lines of division plains, by which they are divided into larger or smaller portions. These structures in the derivate or sedimentary rocks are usually bedding or lines of stratification, and systems of jointing, although in certain rocks of this group the cleavage is more conspicuous than the bedding; while in the granitic and other ingenite rocks they are usually systems of jointing alone. In the harder sedimentary rocks, such as grits, compact sandstones, and lime-stones, the bedding is generally the more conspicuous; while in others, such as slates, cleavage may be more prominent; and in soft rocks, such as shales, systems of joints. Here it should be pointed out that sea action on rocks in cliffs is principally mechanical—that is, the water or air is forced into cracks or other vacancies, thus wedging and quarrying out the rocks in greater or smaller pieces; in some, however, chemical action is a conspicuous destroyer.

It is the direction of the most prominent divisional plains in the rocks of a sea margin which principally gives the rocks any peculiar effects they may have in retarding the action of the waves; this, however, is more or less modified by the secondary structures. The plains formed by the most prominent structure may be horizontal, perpendicular, or sloping.

If perpendicular, they may be parallel, or at right angles, or oblique to the line of coast; if sloping, they may slope outwards, inwards, or sideways to the coast, and the slopes may be at high or low angles, or undulating. The general character of horizontal strata is to form more or less perpendicular cliffs, especially if the land is high; but if the land is low, it often forms stepped cliffs, the waves wearing back the successive beds more and more from the bottom upwards; conspicuous joints, however, will in places quite change this character. When a perpendicular conspicuous structure is parallel to the coast line, if the rocks are massive and homogeneous, they seem to have the greatest capability of resisting the waves; however, rocks are rarely homogeneous, or they often are affected by systems of joints or some secondary structure along the lines of which the sea will act. If the perpendicular structure is at right angles to the coast line, if the upper parts of the rocks press down on those below, keeping the structural lines closed and compact, and thereby preventing the water or air from getting in and wedging out masses; even if a cavity is wrought out at a weak part, the upper portions of the beds act as the stones in an arch, thus keeping up the general character of the cliff; on this account long narrow caves are more prevalent in such strata than in any other. The meteoric agencies may weather back the upper portion of such a cliff, but the lower portion in the vicinity of the water will be in general more or less perpendicular. Perpendicular strata which are oblique to the coast line will act more or less similarly to those which are parallel or at right angles to the shore line, according as the angle is obtuse or acute.

Division plains of bedding sloping inwards from a coast line often form high overhanging cliffs, if there are no secondary divisional lines that break the continuity of the several beds; also, if they slope outwards at a very high angle, the rocks may form greater or less cliffs, but they are liable to slip down in masses, for if two joints or other lines of weakness meet, forming a V or "gusset" sloping outwards, the included mass will suddenly give way when the support below is sufficiently reduced. If the most prominent structural plains slope outward at a low angle, the result in general is a low shelving shore, up which the waves run to a greater or less height; a very low angle, however, acts similar to horizontal structure. A wide trough (synclinal curve) sloping outwards at a low angle generally forms a shallow shelving bay.

The foregoing general remarks apply more especially to more or less hard strata, in which all the rocks have the same, or nearly the same, composition, but in many places associated beds will be dissimilar; hard beds alternating with soft ones, or parts of beds being different to other portions, or dykes of hard rocks may cut softer ones; all which local peculiarities will greatly modify the results. Some comparatively soft rocks may, under favourable conditions, form perpendicular, or nearly perpendicular, cliffs, and may more or less successfully resist the sea action. Slates which cannot be classed as either hard or soft rocks have great resisting powers, especially if their cleavage plains are perpendicular, or nearly so, and the strike of the cleavage is at right angles to the shore line. Soft shales sometimes form high cliffs, but in such cases, as in Kerry and Clare, the rocks are affected by close systems of jointing, which give them a reticulated structure, and cause them to weather away in small pieces. Clays give considerable resistance to the sea action taken by itself; but in the case of clay cliffs, there is always meteoric action combined therewith, which cracks up the clays, especially marls, thus causing them to form slopes. If the cracks are more or less parallel to the coast line, as more generally happens, the slipping is greatest, as the water lodging in the cracks forces out the loosened masses; but if the cracks are at right angles to the shore line, the water

* By G. Henry Kinahan, M.R.I.A., &c. Read before Institution of Civil Engineers of Ireland, November 1, 1876.

probably will percolate out through them, thus allowing the clay to stand perpendicular, or nearly so. Clay combined with sand, gravel, and shingle, a common variety of the Irish drift, often forms a mass capable of standing perpendicular; also many sands and gravels, which are, in fact, friable sandstones (that is, whose particles are weakly cemented together)—all such soft accumulation, however, weather more or less freely. On the other hand, there are many hard rocks that are rapidly denuded and cut out by the wave action. Thus in many places on the coast, dykes of felstone and whinstone coming up through slates, schists, or other softer rocks, have been worn away, forming guts or small bays. This, in some cases, is due to their being chemically soft, although mechanically hard; while in most cases it is due to their jointed structure, which causes them to be more easily quarried out by the wave action.

The mode of reaction of the rocks on the waves seems in general to be determined by the forms resulting from the most conspicuous rock-structure. If the faces of the rocks are perpendicular, or nearly so, and at right angles to the coast line, a wave coming against them, under certain circumstances, rises to a great height, and if the water is deep, and the wave has great swing and force, they rise higher. The blue solid water has been known to carry away the water-tanks at the upper light-house on the Great Skellig, county Kerry, at a height of over 350 ft.; while on the perpendicular cliff called Aillinera, Middle Isle of Aran, Galway Bay, at a height of 170 ft., there is a beach composed of huge blocks of limestone, which are tumbled about by the waves when a high storm comes from the westward. That such waves are caused in part by the perpendicular cliffs is evident, as the same wave that rises hundreds of feet on a perpendicular cliff will, on a neighbouring sloping beach, only rise 10 or 12 ft. There is, however, evidently a limit to the depth of the water adjoining such a cliff, which has an effect on the uplifting of the waves, as when the water is excessively deep the waves will not rise, but only oscillate. From this it would appear that if the magnitude of the incoming wave is such that it can touch and rebound from the bottom of the sea, it will rise on the perpendicular cliff; but if the depth is such that it cannot touch the bottom, it will only oscillate. The bottom of the sea sloping upwards towards a cliff will also induce a wave to run up a cliff, as we learn in places from the sounding off where waves break over high cliffs. If rocks overhang the sea, the waves can scarcely rise above their original height.

Rocks sloping outwards may have different characteristics. First, the slope may be steep; second, it may be flat; third, it may be undulating, that is, composed of two or more slopes; fourth, the slope may be smooth; and fifth, it may be rough. In regard to the first two, "the shock of the wave on every superficial yard of the slope, estimated perpendicularly to the slope, increases with the sine of the angle made by the slope with the horizon, supposing always that the body of water is approaching the slope horizontally, and moreover neglecting the washing action of the wave as it sweeps up along the slope." Mr. J. H. Müller, of the Hagne, states:—"If the rule is adopted that the shock of the wave increases with the sine of the angle made by the slope with the horizon, the momentum remaining the same, the amount of force or intensity saved by the flatter slope is expended in the velocity with which the wave runs up the slope. But whatever may be the cause, it is certain that waves ascend much higher on flat slopes than on steep ones, so that although the shock may not be so great, the protection must be carried up higher." Thus, although the waves run much farther up on gentle slopes than on steep ones, they have much less direct battering power.

Undulating slopes are very effective in breaking the force of the waves, on which account they are much used in the Dutch and

Danish sea walls. Müller gives for a bank at the half tide level a combination of three slopes. The top of the bank is 4 ft. above the highest known tide. The inner slope of the bank is 1.5 to 1; the outer top slope is 3 to 1, and extends from the top to the level of the highest known tide, at which point there is a flat called a "cess," 20 ft. wide, with a fall of 1.5 or 2 ft., and the lower slope is 3 to 1. The greater the width of the cess, the greater its efficiency, as the wave rushes up the first slope till it arrives at the cess, when its direction being altered, it is checked, and if the cess is sufficiently long, its force is almost expended before its direction is again altered by the upper slope. On the west coast of Galway it is remarkable to see how fast one of the huge Atlantic waves loses its power while travelling over one of the undulating granite surfaces. On the south-east coast of Ireland the effect of undulating slopes can also be studied. On this coast there are extensive beaches, which in general travel northward with the "flow tide." These beaches in places are margined landwards by accumulations of Æolian drift or "bent banks," as they are locally called, and outside such accumulations the section of the beach, under ordinary circumstances is similar to that shown. Above there is a nearly flat foreshore; below ordinary high-water mark a steep slope; above low-water mark of spring tides a flat slope, and below low-water mark more or less a steep slope. If, while the beach has such a section, a gale from the south-east come on, it can do very little denudation to the sand-hills, as the force of the waves is expended before they can traverse the different slopes in the beach. This, however, is not the case if, prior to the south-east storm, there has been continuous winds from the north-eastward that have sucked out the gravel, &c., and left the beach forming one continued slope, up which the waves rush with great force, and rapidly denude away the marginal banks. In places on this coast acres have been thus washed away within the last forty years.* In other parts of the Wexford coast, also at Killiney Bay, County Dublin, &c., the sea acts similarly on the ordinary drift cliffs, rapidly denuding them, where the protecting beach has been taken away either naturally or artificially.

Rough slopes are more effective than smooth in breaking the force of a wave, as each roughness retards the progress of the wave, while a smooth surface invites it to ascend. A wave will ascend higher on a smooth rock than on a slope of sand, and higher up a sand than a gravel or shingle beach. It is interesting to watch a huge wave rushing in and disappearing, as if by magic, on a rough shingle beach of West Galway. This, however, is not solely due to the roughness of the slope, as the absorption of the sand, gravel, or shingle must assist materially. It, however, can also be observed on rock surfaces. Slopes of slate-rock usually are smooth below high-water mark from the friction of sand, gravel, and shingle passing up and down on them; but above high water mark such rocks are generally rough, weathering having more or less opened up the cleavage plains, in places on the coast of Cork the weathered portions being similar to innumerable huge knives placed side by side. A wave during a storm will rush madly up the smooth portion, but when it meets the rough surface, the numerous projections it encounters so sub-divide the wave that it soon loses all its force.†

SEA WALLS AND PIERS.—From what has been stated, Nature would seem to suggest the uses to which different materials should be put, and the positions they may be placed

* The Ordnance maps of this country were made about forty years ago; of what happened previously there is no record.

† Some of the Dutch engineers recommend fascines for protecting the banks in preference to stone, for the following among other reasons—that the numerous stakes fastening down the fascines act similarly to the rough projections of the slates, and break the force of the waves. They also use protections of straw called "crammats;" these act similarly to gravel or shingle, as their roughness, combined with their absorption, break the force of the wave. In Ireland I have seen masses of alva-marina used similarly, to protect a place in a bank the sea was breaching.

in, when erecting sea works. The inside of piers and other works alongside which shipping is to come, must necessarily be smooth, but the rougher outside work is the more the rush of the waves will be broken, as the waves will ascend higher up a smooth wall than a rough one; however, the breaking of the waves ought to increase the force with which they come against the wall. Strata perpendicular and at right angles to the waves resist them best; this would suggest that, when practicable, stones should be pitched on edge, and not built in horizontal layers or pitched on their bedding. This has been practically shown in various places in Ireland, when protecting the sides of deep cutting during the arterial drainage in 1852 and subsequent years. The stone facings that were built or pitched on their faces nearly invariably failed, while edge pitching was generally effective. In the latter, each stone will act as the voussoirs of an arch, when called upon to do so; consequently, if lower stones are displaced, the upper ones become more firmly fixed. Many other instances might be mentioned of built piers and sea walls that failed, and have had to be replaced by edge pitching. It is not uncommon to see the coping of a sea wall, or the roadway of a pier, formed of stones pitched on edge, replacing large flat blocks that were swept away.*

Rocks overhanging the sea are found to prevent the waves rising. This therefore would suggest a form for the sea wall of a pier somewhat similar to that shown. Such a wall, however, would, under general circumstances, be vastly costly, as the stones would have to be long and strong. Besides, the stopping of the waves would give them great power on the work, and would necessitate a mass of masonry above the projecting stones. On the west coast of Ireland, waves breaking under overhanging cliffs must have enormous power, if we are to judge from the sound they make. Sea-walls somewhat on the principle shown on diagram are used in a few places on the west coast of Ireland, and are said to be effective in keeping the sea from the adjoining roads.

When avoidable, it would appear expedient that perpendicular or steeply-battered walls ought not to be used, except in deep water, as the waves run up them,† and the falling waters on the walls or piers do considerable damage, often making a breach which the waves rapidly enlarge. Such walls generate waves, as is demonstrated in the "flow-tide" of perfectly smooth seas, during which waves break against and ascend such walls, while on adjoining beaches there will be scarcely a ripple.

Compound slopes being more effective than single ones, seems to suggest that the sea-walls of piers ought to consist of two or more slopes, where there is a slope to the height of ordinary high water; above that a flat or "cess," and above the cess a second slope, the whole being constructed of rough stones pitched on edge. The more exposed the situation, the wider the cess ought to be. In many places it would be practicable that clay-work might be used to at least half tide, in which cases the land portion of the pier would be a modification of the bank section shown. Such a combination of earth-work and stone-work, when available, would lessen the expense of piers considerably. It was proposed, as a protection to Galway Harbour, that Mutton Island should be joined to the mainland by an expensive stone structure; while an earth-work, somewhat on the Dutch

* In such cases you are usually told by the inhabitants, "They are better than the ashlar, as the sea can get no 'holt' on them." Thomas Stevenson, writing in 1846, says: "Setting stones on their edge is an old Scotch plan, and very good." At Newcastle, Dundrum Bay, County Down, much expense has been incurred building and rebuilding a handsome cut-stone pier, which is now a ruin. If, however, the rough schist of the neighbourhood, pitched on edge, had been used in its construction, it would probably, with a little care, have remained unto this day.

† Scott Russell says that waves will not ascend a perpendicular wall if the water is 15 ft. or more deep. On the west coast of Ireland, when the huge Atlantic waves come in, in water much more than 15 ft. deep they run up the cliff. There is, however, as previously mentioned, a certain depth out of which the water will not rise.

system, which would be quite as effective, should be made for much less money.

The advantages of compound slopes in an embankment are, that they are not only more effective, but they also lessen the expense of the original structure, and of keeping it afterwards in repair. The embankments in Ireland for the protection of roads or reclaimed land generally have a steep slope, and when such a wall gives way it is rarely the face of it goes first, but the breakage generally begins behind it, or at or near the top, the water that fell over or on it, or lodged behind it, having done the damage. It is therefore necessary that single sloped walls should be built excessively high, so that no extraordinary wave may over-top them. Such walls also should be faced all the way up with stones or fascines, as many Irish failures are due to the bank being eating into above the facing by the waves, after which the water rapidly cut the bank to its foundation.

When an embankment has slopes with a cess, except in very exposed situations, it is only necessary to breast the lower slope. The following is the general rule, as adopted in Holland, for half-tide embankments:—Inner slope and top of bank covered with layers of clay 8 in. in thickness, and planted with grass; the outer top slope and cess with layers 12 in. thick, and sown with a mixture of salt-mash, meadow-grass, and clover seed; this to be protected with a "crammat" until the grass has grown, generally about three years. The lower slope has a layer of clay 18 in. thick, which is protected by either fascines or stone-work; the fascines are preferred, for the reasons previously mentioned, also because they find them less expensive, and because a foreshore generally forms outside the bank which covers up the stones, which are thus made useless. The Dutch banks are usually built of the sand or other materials that come readiest to hand, which necessitates the thick layer of clay. An ancient Irish system, now nearly quite abandoned, was to build a bank faced with faggots. These seemed to be very effective and cheap, as they prevent the slipping of banks and the wave-wash while the work is in course of being erected. Breaches in some of the Irish banks have been stopped by the use of faggots where expensive piling failed; and some of the Continental engineers use a combination of basket-work and fascines (faggots) to close the last opening in an embankment.

GROYNES.—Extensive denudation is going on at various places on the south-east and south coasts of Ireland, between Dublin and Waterford bays. In a few places expensive sea-walls have been erected—some being effective, others not so. In four localities I have observed groynes, but in most places the sea is allowed to work unresisted. Sea-walls, massive enough to be effective, are very costly, while in most cases they are liable to fail eventually; but much of the waste on these coast lines might be stopped cheaply by groynes. Groynes must be built to suit circumstances; they are to act as pounds, and retain the sand, gravel, and shingle on a shore, preventing them moving or being carried away. To be effective, they eventually should cause a foreshore to grow at the base of the cliff or shore-line they are intended to protect. If a groyne causes a current between itself and the shore-line, it is useless; consequently the land end more than any other part of a groyne should be staunch. Some eminent English authorities state that groynes should extend from the level of the highest known tide to low-water mark. This, however, is not always necessary, as in different localities, such as on the Dublin and Wicklow Railway, at the breaches near Kilcool, short groynes extending seaward from the shore-line have been found completely successful. Long groynes in some places, especially if high and far apart, do more harm than good, as they form in-and-out current, the back wash being of the same power as the inflow, consequently the materials carried in being sucked out again. This, however, only seems to take

place when the waves are on, or acutely oblique, to the shore-line.

Groynes usually are erected the full height at the first. This, however, in some localities is very objectionable, as the driftage fills up one side rapidly, while the other side is empty; consequently the water-fall over the groynes forms a current that carries away the beach. Groynes therefore in most places ought to be made low at first, and heightened as the beach accumulates. Groynes, if erected before May or November, will catch the spring and autumn falls of the leaves of the laminaria that are driven on shore by the storms in those months, thus adding considerably to their efficiency. It has lately been proposed to erect groynes in zig-zag instead of straight lines, and experiments with such are now being tried in places on the south coast of England.

Different materials may be used to make the groynes, wood being that in common use. In some places, however, stones are cheaper, and slaty or flaggy stones make an effective groyne, if pitched on edge, and backed with seaweed, gravel, or shingle. Other materials may also be used. I have seen, on the west of Ireland, an effective groyne made of seaweed and straw "suggauns." This was to keep the sea out of turf banks. The seaweed was tied into bundles, and the suggauns ran through the tyings as each was placed in position; the bundles, as placed, were weighted with sand, while the seaward end of the suggaun was weighted with stones. When the wall was of a sufficient height, it was backed with sand, and the groyne was complete. A groyne of seaweed suggests other materials that might be utilised in erecting groynes, such as faggots of whins or other brushwood, creosoted guano or other bags filled with sand, or the old barrels and casks so generally kicking about country towns and villages. These might be fastened in position by either chains or wires, row after row being added, until the beach had accumulated to the height required. A backing of seaweed, sand, gravel, or any other material, would add to the stability of the groyne prior to the beach beginning to accumulate. Certain rules as to the length, the position, and the number of groynes to be put on a beach, have been given by different authorities, but in general the same set of rules will not apply to all localities; a few trial groynes, however, generally will show what is required. In some places where the "out-suck" of the beach is a prevailing feature, the groynes may have to be long, or zig-zag, or oblique; while in places where the general character of the beach is to travel in one direction, they may be short; but all general rules must be modified to suit the circumstances of the locality.

LAW.

DAMAGES THROUGH BUILDING OPERATIONS.

COURT OF COMMON PLEAS—DEC. 6.

David Renwick v. Daniel Daly.—This was an action to recover damages, laid at £500, for trespass to plaintiff's premises at 17 Berkeley-road. It appeared that defendant, who carries on business as a grocer next door to plaintiff, was making additions to his place, and in the course of the building operations he used the gable wall, &c., of plaintiff's house, causing, as the latter asserted, damage through damp &c., to his premises. The defence was substantially that defendant only used as far as was necessary, and in exercise of a vested interest, the wall of plaintiff's house to which alleged damage was caused. In the result, the jury found for defendant on the question of excess, but assessed the damages at £50 in the event of the Court being of opinion that the deeds relied on by defendant did not bear the construction put on them.

Leave was reserved to plaintiff to move to enter a verdict for him for £50.

Counsel for plaintiff—Messrs. Murphy,

Q.C.; Andrews, Q.C.; and Weir (instructed by Mr. J. C. Baile). For the defendant—Messrs. Purcell, Q.C.; Webb, Q.C.; and Perry (instructed by Mr. J. J. Dodd).

THE GUINNESS STATUE.

On Tuesday last Foley's admirable statue of the late Sir Benjamin Lee Guinness was formally handed over to the Dean and Chapter of St. Patrick's Cathedral. The following inscriptions were sculptured upon the base:—On the front—"Sir Benjamin Lee Guinness: Bart, LL.D. Member of Parliament for the city of Dublin." On the west side of the base—"St. Patrick's Cathedral by him restored A.D., 1865"; and on the east side—"Erected by his fellow countrymen, in grateful remembrance, A.D., 1875." At the last meeting of the testimonial committee, the treasurer was authorised to draw a cheque in favour of the executors of the late Mr. J. H. Foley for £200, being the balance due to that gentleman of the sum of £1,000 for the statue. This was finishing the work of the committee in a business-like manner, which we would like to see more often imitated. We may add here that the stone and marble work in connection was carried out by Messrs. Sibthorpe and Son, of this city, in a highly satisfactory manner.

AN ELIGIBLE ASSISTANT.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Enclosed is a copy of a very comical letter we received some short time ago; and, as I am sure some of your readers would be very glad to know of such a very valuable assistant, I thought it might be worth inserting in your next issue.

WILLIAM BUTLER.
(Gribbon and Butler).

89 South Mall, Cork,
11th December, 1876.

..... street, Dublin.
Dublin, Novbr. 20th, '76.

Messrs. and
Architects And Engineers.

Gentlemen—been told you may require A mans service like me, I thus takes the liberty of writing to you's. Having got practice in Building work in Builder Employment, &c., in drawing Office for all such work, understanding all tracing across circles gothics Pediment mouldings &c. for practical working, also Iron Roofing Iron Greenhouses in gothic style Bridges &c., I been in a Firm named where I got the practical lines for all such work—Been connected with Railway work gone through all the Departments getting all castings pumps Hydraulic Rams cisterns and all other work required for Permanent way, having got good practice in Locomotives taking of gab motions and getting on Link motions as now is generally used in Locomotives and Marine Engines Which I have had practice in both class of Engines and Stationary Engines also, I also having practice in Flour mill machinery Knowing the working speeds of all the different machines in Flour mills, also the prices: and prices for shafting bright or rough with Journals turned up.

I giving the working details of the Flour Mills was the late Mr.'s Mill also Mr.'s beside it at M. I which was a paper mill formerly. Having prices for all McKenzie Mill Shafting S. Iron works for all Work, Mill work of all description. I having got practice in Cog wheel work of all description and there strength required.

I remain Yours

Obedient

F. H.

P. S. Gentlemen having had to leave last employment on account of great illness which I am now fit for all business required. I making drawing there for all class of work & taking directions out when required thoroughly understanding all patterns made for Iron work brass work or any class required has got testimonials for ten years Also Railway Testimonials Builders and iron work for all class of buildings understanding Molesworth Engineering book

Gentlemen Yours
Obedient servant

F. B.

NOTES ON THE EARLY HISTORY OF THE IRISH STAGE.*

IN commencing the second season of his management of the Dublin stage, Sheridan did so under disadvantages, having lost the services of Garrick and Barry. Nothing daunted the manager; a Shakesperian revival was again hit upon, and a subscription list opened for six of the great dramatist's plays. "Much Ado About Nothing" brought, we are told, nothing; and it was followed by "Romeo and Juliet," "got up with a characteristic pomp and splendour never before exhibited on the stage in Ireland." Though an excellent actor in other parts, Sheridan was unfitted for playing the character of the lover. Miss Bellamy's Juliet was, however, well received, and for several nights there was a good run of crowded houses.

Theatrical opposition was still alive in Dublin, and the little theatre in Capel-street opened on January 8th, 1746-7, with the "Provoked Husband." Some performers played on this occasion who were afterwards well known; among them Miss Mason (subsequently Mrs. Heaphy), who acted the part of Miss Jenny. In March, Mr. Giffard, jun., made his first appearance on the stage in this country at Capel-street in Sir Harry Wildair in the "Constant Couple;" the other casts were—Colonel Standard, by Mr. Wright; Vizard, Mr. O'Brien; Beau Clincher, Mr. Layfield; Young Clincher, Mr. Mason; Alderman Smuggler, Mr. Mynitt; Jubilee Dicky, Mr. Dale; Angelica, Miss Mason; Lady Darling, Mrs. Mason; Parley, Mrs. Layfield; followed by the "Devil to Pay;" Jobson, Mr. Layfield; and Nell, Mrs. Layfield. The fortunes of Capel-street, we have already alluded to: it was feeble, and it struggled hard against the fate that awaited it.

Though the representation of *Romeo* was very successful at Sheridan's theatre, the profits of the season as a whole were likely to prove indifferent, had not circumstances arisen which roused public attention, and brought many friends to Sheridan's side in the cause of theatrical propriety and public order. It is known from what we have previously written that Sheridan had long set before him the task of reforming the abuses connected with the Dublin stage. In connection with the period of which we are now speaking, Victor affords us particulars which are also embodied in Hitchcock's "View." One of the evils remaining in connection with the management of the theatre was the admission of gentlemen behind the scenes, not only at rehearsals but at night; and every idler, bully, or well-dressed "rough" who wore a laced coat claimed and enforced this privilege, to the annoyance of actors and actresses and the audience. Young collegians and titled scamps were wont to crowd to morning rehearsals, and we learn it was not an unusual sight to see a number of unfortunate actors rehearsing within a circle of forty or fifty idlers and disturbers. At night time the effrontery of these folk was carried so far that they used to stand on the stage in front of the audience, laughing, jesting, and taking other improper liberties. Conduct such as this Sheridan determined to stamp out, but his difficulties were great, for these "respectable" blackguards claimed a sort of prescriptive or vested right in acting as they did, and they did not lack assistance on the part of their boon companions. Matters were growing ripe for action, either for a submission to mob dictation or a blow direct at the nuisance.

During the representation of Sir John Vanbrugh's comedy of "Æsop" on the 19th of January, 1746-7, a young "blood" of the name of Kelly appeared in the pit intoxicated, and making his way towards the stage climbed upon it, and proceeded towards the green-room where several actresses were assembled. We are told that this drunken and genteel ruffian, unmoved by the decorum which constantly reigned there, addressed Mrs. Dyer and actresses of excellent character in gross and indecent terms, and his conduct obliged

all the women to quickly retire for refuge to their dressing-room. The buck Kelly pursued them thither, but on being refused admission made all the noise he possibly could in disturbing the business of the stage then proceeding. Miss Bellamy, who was then dressed for her personation of Doris, was afraid to venture out till Sheridan, who was also dressed for his character of Æsop, had the intruder removed and conducted back to the pit. Foiled in his desires, he made free with a basket of oranges beside him, and as soon as Mr. Sheridan appeared on the stage, began to pelt him. The manager appealed to his audience and countrymen for protection, who immediately responded. The doughty Kelly was with some difficulty silenced, after calling Sheridan a scoundrel and a rascal. The bully, however, had not yet satisfied his temper for mischief. As soon as the play was over he forced his way in at the stage door, and made his way to Mr. Sheridan's dressing-room where he again repeated his offensive epithets. Sheridan, naturally provoked, struck the scoundrel several times, who took his beating, but beat his retreat quickly to a club where he related his disaster to his companions. The latter, we are told, "incensed that a scoundrel player should presume to strike a gentleman, united in denouncing vengeance against the offending manager, and all who should take his part."

A few nights passed over in quietness, until Sheridan was announced for a certain night as Horatio in "The Fair Penitent." Threats were whispered about and threatening letters sent, and these having some effect on the manager, in his discretion he resolved not to appear. He gave instructions to Mr. Dyer to go on the stage and acquaint the audience with his reasons, and to make a suitable apology for his absence. Faction was well represented in the theatre on that night, with Kelly, the ringleader, who, on hearing the statement from Mr. Dyer, rose up in the pit with his party and commenced the work of destruction on which they were evidently bent, should circumstances favour their designs. The ruffians mounted the stage, proceeded to the green-room and dressing-rooms, forced locks and doors, made to the wardrobe, thrusting their swords into all the chests and presses of clothes by the way, it is said, of feeling for Sheridan, whom they imagined might be secreted somewhere on the premises. Many acts of violence were committed, but, failing to find the object of their vengeance, the genteel ruffians proceeded to Sheridan's house in Dorset-street, where they found that their reception was provided for in a way they did not anticipate.irate and vowing vengeance, the party retired. This riotous conduct was, of course, a matter of public comment; and though several took Sheridan's part, there were not wanting several others who leaned to the side of faction. Party feeling ran high, and some of the miscalled gentlemen succeeded through their family connections in keeping up a feeling of revenge, and of nursing a hatred against Sheridan.

The attack in the theatre took place on Thursday night, and on Saturday morning, January 25th, 1746, the following letter appeared in *Faulkener's Journal*, written without the knowledge of Sheridan by the deputy manager, Mr. Victor:—"Sir,—As the character and conduct of Mr. Sheridan are by a late unhappy accident become the universal topic of all conversation in this metropolis, I am induced by a late intimacy with him to give the public, by your paper, a portrait of this actor. He is the son of the late Rev. Dr. Sheridan, a gentleman that is well known in this kingdom. This his son was early in life sent to Westminster School in London, and when fitted for the university was entered of this college and a class-fellow with the most of the nobility and gentry of this kingdom of his time, and took his degree there of bachelor of arts. Well, then, he has had the education of a gentleman—aye, but, says the herald, he degraded himself when his fortunes as well as his singular

abilities led him to the stage. It may be so, though in my private thoughts that opinion, though common, is like many others that are too easily received by mankind, and built on a false hypothesis. However, that I may not appear too singular, it shall be granted. Well, then, let us view him in this degraded light, because this survey will best answer my present purpose. All gentlemen I have hitherto met with, when degraded, have been lost to virtue, and have fallen a sacrifice to those passions and vices that drew them from the path of honour; but this young man, as a proof that his fortunes alone threw him into this degraded light, remains in his moral character unsullied. As the manager of the theatre (since that has been his province), his ambition has been to cultivate good manners and decency, and his labours and good example have hitherto been attended with good success. The actors live in unusual harmony, and have pursued their business with the utmost regularity; they are rewarded with their salaries; tradesmen's bills are now punctually paid, and the town (it is universally confessed) has been better entertained this year than ever was known by so thin a company of tolerable artists; to what can this be owing but to good conduct and ability of the manager? In his present profession I may say without flattery or partiality, that when I consider the variety of characters he appears in, he is arrived at an amazing degree of perfection for his years. In private life, when his labours have blest him with success, I have known him to take more pleasure in assisting his relatives and distressed friends than the finest gentleman can pretend to enjoy in consuming the bounties of fortune. But what avail these qualities? He has offended, it seems, some gentlemen, and how? Why, in doing his duty as a manager of the theatre, he met with an unexpected and violent insult from a single person in the pit (one whom he was obliged to order from behind the scenes, after his indecent behaviour there), at a time when he was receiving the applause of the audience in the character of Æsop. In this surprise he was compelled to make an address to the people, and in that disorder of mind it seems he made use of one indecent word that to these gentlemen was exceptionable. Now, can anything be more likely than to suppose, in that confusion, he forgot he was a degraded man. Let us suppose any one of his gentlemen adversaries surprised into a necessity of addressing a public assembly; how few are there out of a much larger body that could speak on the occasion, unexceptionably?—alas, how few! But though I did not hear Mr. Sheridan that night, I can safely depend on the judgment of two or three gentlemen of sense and honour who told me his behaviour, though provoked, was far from indecent or improper. However, it was by some gentlemen, it seems, thought otherwise, and one word was displaced, and for that, what had like to be his punishment? Why, he was nearly wanting all the surgeons in Dublin to dress his wounds. *O tempora! O mores!* In London, in the year 1722, a riot was committed at the theatre in Lincoln's Inn Fields by a set of profligate young men of quality, which shut up the play-house for eight or nine days. But the legislature (by the king's direction) entered so warmly into the affair, that the rioters thought proper to make the suffering manager ample satisfaction; and his majesty ordered a guard to attend that theatre from this accident, which Mr. Rich enjoys to this day. At the last riot in Drury-lane Theatre in 1743 his majesty was pleased to give the same directions, and the Lord Chief Justice Lee declared from the bench it was his opinion that a continual hissing was a manifest breach of the peace, as it was the beginning of a riot. As the people of this country are under the same gracious sovereign, and protected by the same laws, and as our chief magistrates are persons of the highest honour and integrity, now is the time to assert your liberties and prove yourselves as freeborn subjects as your brethren in England."

* See ante.

This letter of Victor's had a good effect, and convinced many that Sheridan was in the right and his opponents were decidedly in the wrong, and deserved something more than public censure for their continued bad conduct. Victor's letter, however, was soon answered, and in a few weeks several pamphlets appeared discussing the *pros* and *cons* of the dispute. Hitchcock writes of this affair:—"The whole company, nay, the whole kingdom, were at last engaged in this quarrel, which not only threatened the ruin of all whose bread was depending upon the theatre, but the lives and fortunes of many without doors who were so rash as to engage publicly in the affair, which was nothing more than the honour of an actor; but his cause was a noble one—a defence of decency and the decorum of the stage, in which he was supported by all persons of worth and honour, and by the laws of his country."

The heat of the conflict is now approaching, when justice and right triumph over cowardly and brutal malice. Honest citizens and honoured advocates wake up to a sense of their duties, and a resolve is come to, to stand by Sheridan in defence of the freedom of the stage and the rights of the audience, as against the assaults of disturbers working their own selfish ends. How the battle was fought out and won shall be told as we proceed.

MILVERTON QUARRIES, SKERRIES—EXPERIMENTS WITH DYNAMITE.

On Tuesday, the 5th inst., a number of gentlemen were invited to witness a series of experiments with dynamite for blasting purposes, carried out by the Messrs. Wardrop at the above quarries, which are situate half a mile from the railway station. Some twelve borings of about 2 in. diameter were made to a depth of 13 ft. These were charged with 4 lbs. to 5 lbs. of dynamite, and preparations were made for the displacement of about 4,000 tons of stone. The charges were fired by a powerful electric battery connected by means of a cable 300 yards long. The experiments were conducted by Mr. Edward Thomson, agent for the British Dynamite Company of Glasgow, and the results were satisfactory. Subsequently some masses of hewn rock, and bars of rolled Belgian iron were shattered to pieces, for the purpose of showing the powers of dynamite on smaller bodies. Since the Messrs. Wardrop came into possession of these quarries, several improvements have been made in workshops, store-houses, machinery, &c. A three-throw set of pumps receives motion from an iron water-wheel equal to about six horse power. Adjoining the quarries is a lime kiln, and from these two sources large quantities are daily forwarded per rail and vessel to Dublin and elsewhere.

THE ARCHITECTURAL ASSOCIATION OF IRELAND.

The opening meeting of the session 1876-77 was held at 212 Great Brunswick-street on Thursday evening, the 7th inst., when there was a good attendance of members and others interested in art progress. The walls of the rooms were adorned with numerous drawings, engravings, photographs, &c., and some specimens of tapestry, encaustic tiles, and cabinetwork were exhibited by the leading manufacturers and agents.

Mr. William Fogerty, the newly-elected president, having taken the chair, presented the association's prize to the winner, Mr. G. W. Miller, and then proceeded to read his inaugural address, which we print *in extenso* in this issue.

Mr. J. J. O'Callaghan, in moving that the president vacate the chair, and that the vice-president be called thereto, remarked that the early architecture of Ireland deserved more attention than it had received, and that whatever Irish architecture may be in the

future, he trusted it would be free from Queen Anne style.

Mr. Thomas Drew seconded the motion, and said he had listened to the address with great pleasure. There had been many topics touched upon which had never been opened before, and their ventilation would no doubt produce good effect. He joined his friend Mr. O'Callaghan in objecting to the Queen Anne style, but thought his alarm was too magnified in regard to the architecture of Ireland suffering thereby, and thought Mr. O'Callaghan had nothing to fear so long as he practised as he had done.

Dr. Fraser proposed a vote of thanks to the president for his address, and said he was glad the attention of architects had been turned to the dwellings of the working classes, as there was great room for improvement of that kind in the city.

Major Campbell, R.E., seconded the resolution, and Mr. Fogerty having briefly acknowledged, the meeting adjourned.

THE ARCHÆOLOGY OF PALESTINE.*

A VERY valuable accession to the archives of the Palestine Exploration Fund has, within the last few days, been deposited at the office in Pall Mall East. It will be remembered by those interested in the subject, that in the autumn of 1873 M. Clermont Ganneau commenced his investigations in Palestine for the Fund. His was a special mission, quite apart from the great work of the survey, and having for its object archæological research in Jerusalem itself and in the surrounding districts. With M. Ganneau the committee sent a skilled draughtsman, a young French architect named Lecomte, whose pencil recorded with remarkable skill and intelligence the observations of the archæologist and scholar. A portion of these very careful and well-executed drawings were, immediately upon M. Ganneau's return, deposited at the office of the Fund. The remainder, and by far the finest portion, have now been brought to London for the first time. They form a very complete illustration to the notes which M. Ganneau, from time to time, sent home during his expedition—an expedition which we cannot help regretting should have lasted so short a time as one year. These drawings will repay careful examination, not only by those interested in Palestine, but by archæologists and architects generally. They include plans, elevations, and sections of structures of various dates and purposes; many very explicit diagrams of places of sepulture, to the special interest in some of which we shall refer further; several of Christian churches, the number and importance of which, as existing at the close of the Crusades, must surprise many an antiquary. The Romans themselves can hardly have been more busy builders than these invaders. There are also careful records of many details; and these last will not be the least interesting to the true archæologist, who knows that it is to details he must turn for evidence. Some inscriptions in Phœnician, Hebrew, Greek, Roman, and Mediæval characters are also given. A few photographs are added, and make us long for more. The Fund should secure *photographs of details* whenever possible: they would be far more valuable than the best drawings of retail.

Among the most interesting of the drawings of places of sepulture, is one of a succession of chambers at Khirbet Médye, which have been called "the tomb of the Maccabees," upon the supposition that this locality was the site of Modin. This latter assumption may, or may not, be true; but the theory that this is the tomb of the Maccabees is exploded by the simple fact that M. Ganneau has found in the bottom of each of the three rock-graves of the last chamber a mosaic pavement of white tesserae, and in the only perfect one of these is worked a small cross in coloured tesserae. It is singular that two former explorers, in examining this chamber,

have broken through the very part of the pavement where the cross would be; that is to say, under the head of the corpse. There is considerable evidence that the chamber itself is the crypt of a Christian church. Not less interesting is a small drawing showing a passage and some rock-cut tombs, to which the access is from the actual church of the Holy Sepulchre. The raising of one of the floor slabs has revealed a lower storey, with another passage leading to other "loculi." These M. Ganneau discovered to be "*ancient Hebrew tombs*," and there is an extension of the passage, closed by an upright slab. The Church of the Holy Sepulchre does, therefore, stand on the site of an ancient Hebrew burying-place—an important link in the evidence affecting this famous shrine. Attention should also be called to an unusual form of rock-cut tomb, near Beit-Djibrin—a long cavern with three loculi at the end, seven on each side of the main chamber, and one on each side of the vestibule. All these loculi have the pitched-roof form, of which we know of no other example. On the same sheet is illustrated an artificial passage or tunnel of considerable length, and sixteen feet in width, cut in the rock, the whole roof of which is incised with an octagonal diaper; each side wall being ornamented with an elaborate frieze, the details of which appear to be Byzantine. What was this tunnel? Can M. Ganneau tell us?

Among the drawings of churches are, first, a fine set, coloured, illustrating the church at Gaza, which must be fairly well preserved. The builders turned to account the capitals and other carved features of some earlier structure. This church has a handsome vaulted porch, an almost unique instance in Palestine. There are plans of the Church of St. George at Lydda—the church which was first dedicated to the patron saint of England—and a plan and photograph of the remains of a very interesting church at Amwas (Emmaus), which cannot be later than the twelfth century. Of other objects illustrated, we may point to a very carefully coloured drawing of a mosaic pavement found on the Mount of Olives, the detail and colouring of which would justify us in attributing it to the Herodian epoch. Another example of mosaic, of simpler design, was found at a depth of some eighteen or twenty feet on the Armenian territory at Jerusalem. Of one other mosaic there is a coloured drawing which may open the way to considerable controversy. It formed part of the exterior ornamentation of the "Dome of the Rock" before it was cased with its present coating of glazed tiles, but after the upper arches had been converted from openings to recesses.

Two or three drawings give examples of the stone doors. One, in a rock-tomb at Kars-Jalud, is still in position, and turns on its hinge. Another lies in the crypt of the church at Sebaste: it is of black basalt, and has panels sunk in its surface. At Amwas, again, is a curious slab, or stone door, closing a tomb. The sketch shows the hole for the cord by which it was suspended when sliding from above into the grooves prepared for it. Some illustrations of ancient presses (for olives or wines?) are interesting. The upright stones retain the grooves and sockets for the working mechanism. There is no clue to the date of these.

As to the inscriptions, the most important have already been described in the publications of the Fund. As an instance, however, of the keen eye which M. Ganneau has for inscriptions, we may mention one, of which he found half forming part of the staircase in a private house, and the other half in a similar position in a different part of Jerusalem. Again, a small sketch shows the position, on the face of a rock-dwelling at Siloam, of two inscriptions in Phœnician character, first detected by M. Ganneau, although close to, and actually facing, the city of Jerusalem. These inscriptions are now, we are glad to say, in the British Museum.

We understand that it is in contemplation to publish these drawings, or some of them,

* From the *Athenæum*.

with descriptive notes by M. Ganneau himself. The Fund cannot do better. Such internal evidence of the history of Palestine should not be lost. As to expense, there must be plenty of Englishmen rich enough to supply the means. Is there no one with so intelligent an ambition?

ADVERSARIA HIBERNICA.

LITERARY AND TECHNICAL.

How is it that we hear so little in these days of one of the most singular characters that was ever born, and lived in this city for many years? The world of law and newspapers have heard of Isaac Peter Thellusson, a native of Germany, and a merchant in London, who amassed a prodigious property, but who at his death in 1798, disposed of it in such a manner in his will that it gave birth to a litigation that lasted for sixty years before it was ended, which it was at last, we believe, in 1859.

Our Irish Thellusson was by name Augustine Pentheny, and he died on the 23rd of November, 1810, in an obscure lodging in Leeson-street in this city, in the 83rd year of his age. Pentheny was certainly a miser, and all his habits were most parsimonious. He began life as a journeyman cooper, and it is stated he accumulated the enormous sum of £300,000 in the Islands of Antigua and Santa Cruz. By birth he was a native of Longwood, in the County of Meath, but he early left this country for the West Indies, to follow his trade under the patronage of a maternal uncle. The uncle, it was said, was another industrious adventurer of the name of Gayner, but known to his neighbours by the sobriquet or nickname of "Peter Big Brogues." Peter, however, acquired an immense fortune, and lived to see his only child married to Sir George Colebrooke, chairman of the old East India Company and a banker in Dublin, to whom Peter gave with his daughter £200,000. Pentheny had a respect for men of wealth, but looked down with contempt on those who were not rich as inferior animals. He never married—in fact he looked upon women in general as only incumbrances to a man of property, and never admitted one into his confidence. It was said, truly, his wife was the public funds, and his children guineas, and to these he paid the utmost attention. He never rewarded a generous action or alleviated a misfortune. It is related of him that the evening before he died some busy friend sent a respectable physician to him, at which the old man did not show any dislike until recollecting that the doctor might expect a fee. This alarmed Pentheny, and, raising himself up in his bed, he addressed his physician in the following words:—"Doctor, I am a strong man; I know my disorder, and I could cure myself; but as Mr. Nangle has sent you to my assistance I shall not exchange you for any other person if we can come to an understanding. In fact, I wish to know what you will charge for your attendance till I am recovered." The doctor answered, "Eight guineas." "Ah, sir," said the old miser, "if you knew my disorder you would not be so exorbitant; but, to put an end to the discussion, I will give you six guineas and a-half." The doctor assented, and the patient held out his arm with the fee and to have his pulse considered, and laid him down again.

Pentheny's relatives were numerous, but in his opinion they were not qualified, and lacked experience in the management of money, to nurse his wealth. He left the entire of it to a rich family in the West Indies, save the generous exception of four pounds to a faithful servant who lived with him twenty-four years. He actually goes so far in his will, it is said, to express great kindness for poor John his servant, and says he bequeathed him the four pounds that his latter days may be indulged in comfortable independence. Pentheny, like Thellusson,

would not allow his fortune to pass to his heirs immediately, for he directs that the entire shall be funded for fourteen years, and then in its improved state to be at the disposal of the heirs he has chosen. For the regulation of his last will and testament, he appointed Walter Nangle, Esq., and Major O'Farrell, late of the Austrian Army, his executors, and the Right Hon. David LaTouche and Lord Fingal trustees.

We do not remember reading or hearing of any litigation arising on the head of Pentheny's will, or whether there is any sequel in connection worth relating. Doubtless the representatives of the still-existing banking house of LaTouche could afford information upon the matter. Thellusson left £100,000 to his family, and the remainder of his property—considerably over half a million—was to accumulate till a certain period, when, if there were none of his descendants of his name existing, the whole was to be applied to Parliament towards the paying off the National Debt. The family endeavoured for long years to set aside the will in Chancery, without success; and the great will case, the oldest lawsuit on record, only ended in the year above stated. We would like to know are there any descendants of Augustine Pentheny at present in this country, and who are now the living representatives of those who originally enjoyed the miser's property?

It is interesting to look up betimes past systems of national education, and even to pore over musty blue books, which are generally dry and unenticing to the majority of people. There are many living in our midst who still remember our old Charter Schools in this country, but little of the abuses in connection with them. We have no party object in alluding to the subject, but merely touch upon it as a historic matter. About 1827 the first report of the Commissioners on Education in Ireland was printed, and it contains some curious revelations. The Charter Schools, as a matter of fact and history, were established in 1738 in pursuance of a charter forming an "Incorporated Society for Promoting English Protestant Schools in Ireland," but one of the regulations was to the effect that children received into these schools should have no interference or conversation with "any popish priest nor any relation or papist, or any person unknown, except in the presence of the master or mistress." This regulation worked ill to the progress of the schools, for parents were unwilling on such terms to part with their children, no matter how efficient the education might be.

The Charter Schools soon degenerated into foundling hospitals for illegitimates, and many of these were inhumanly treated. We read of ruffian schoolmasters flogging boys nine times a-day (symbolising, we suppose, the cat-o'-ninetails) with a leathern strap, for a sum in long division; or beat them with leather cats and ropes, or branches from elm trees, or give them black eyes with blows of the fist, or cut and bruised their heads with sticks—in fact, treated them in the same manner as some "roughs" do their donkeys. The report of the commissioners tells us more than this. To bad treatment were added starving, nakedness, neglect, dirt, and disease, and obvious skin eruptions.

We read of one school that "The two head classes consisted of twenty boys of thirteen, fourteen, and fifteen years of age. Seventeen of these lads declared they had never heard of St. Paul, and half of them had no idea whether the word 'Europe' meant a man, a place, or a thing; and only three boys in the school could name the four quarters of the world; two boys only appeared ever to have heard of Job, and only one could give any account of his history."

This was indeed a nice system of national education, and yet it cost enormous sums of money that must have been recklessly squandered somehow. The expenditure of the society during the ninety years of operation

up till the time of the report has been no less than £1,612,138, of which sum £1,027,715 was derived from Parliamentary grants. Indeed the commissioners came to the conclusion that the system was so bad that it would cost twenty millions per annum to carry the plan into any general operation.

We thoroughly agree with the commissioners, even at this lapse of time, in what they say in these sentences:—"A system of education which separates children from their kindred, and which turns them out into life when just arrived at maturity, without friends or relations, and without that practical experience which children under ordinary circumstances insensibly acquire by witnessing the realities of life around them, does not appear to us likely to obtain the benefits expected of these establishments."

The commissioners go on to discuss systems of separate and united education, and the difficulties in the way where the education of Catholic and Protestant children has to be provided for. They are adverse to separate systems, and conclude:—"The evils with which separate education is evidently pregnant necessarily fixed our attention on the benefits which would result from a contrary course. A system of united education from which suspicion should, if possible, be banished, and the causes of distrust and jealousy be effectually removed, under which the children might imbibe similar ideas and form congenial habits, would tend rapidly to diminish instead of increase the distinctness of feeling which is now but too prevalent."

Shortly after this commission, and early in the following decade, the National Board system was established. We do not purpose to trace its history. It has done a good deal for the education of the poor in this country, though as a united system of education it has naturally been looked upon with disfavour by the Catholic clergy. In view of what the London School Board system is doing in London and throughout England for the children of the people, there is room for great improvement in the Irish system as a united system. In what we have written we nowise desire to undervalue the system of education imparted by the Christian Brothers as a religious system intended for the children of one creed only. Under it a fair English education is given with moral instruction; but it is a denominational system, not a general and united one, though at the same time in one sense it may claim to be Irish and National.

In a Dublin magazine for May, 1793, we read:—"A most excellent sermon was preached in St. Peter's Church by the Rev. W. B. Kirwan [the celebrated Walter Blake Kirwan], and a collection made in aid of the fund for the support of the Female Orphan House, amounting to £804 2s. 6d. The collectors were—Ladies Antrim, Connolly, De Vescei, Gosford, Leitrim, Kingsborough, Headford, Sanderlin, and Fitzgibbon; Mrs. Knox, Ponsonby, Howard, Weldon, and Vesey." What a nice bevy of titled dames and charming collectors! Any parson ought to preach well in their presence; and woe to the unprotected young gentleman who would attempt to steal out of the church on the occasion without depositing his guinea at least on the plate. Ah! poor Irish vicars and curates, what a blessed consumption would it not be if you had such collectors now-a-days, when you preach your charity sermons in aid of sundry objects, from the support of your own schools down to the Vandalism of the churches of your congregations! Would it be possible in these days to persuade a live duchess or countess to hold a plate or rattle a box at a church door, or even within a church, for a charitable object? How many of our wealthy citizens' and merchants' wives and daughters from our squares would act now as their titled countrywomen did in 1793? We wonder is it the very poor or the comfortably rich who now drop from between their fingers into the church bags so many bright farthings for the causes of charity and religion!

H.

ORGANS.

A new organ, by Messrs. Browne and Son, has been erected in the parish church, Bagnalstown. It stands on south side of chancel, and contains two complete manuals, enclosed in a general swell and pedal organ.

A new organ, built by Mr. John White, of York-street, was opened in the Carmelite Church of St. Teresa, Clarendon-street, on Tuesday evening, the 5th inst. The instrument is probably one of the finest in the city; it contains all the excellences of other organs, and manifold novelties all its own. The style of the case is Classic. The front pipes are decorated in gold and colors. The bellows is supplied by four large feeders, all connected with one handle, and the blowing rendered perfectly easy and silent. A view of the new front of this church will be presented with our issue of 1st prox.

The organ in St. Patrick's Cathedral Armagh, has been improved, and several new stops added to it. It has now three complete manuals and pedals. On the 6th inst. there was a full choral service, when the instrument was re-opened. It appears that six years ago it was made what is called a C organ, and it was never enlarged, thus remaining deprived of some of its deepest notes. Messrs. Walker and Sons, London, have just now effected the improvements and additions.

SOCIETIES' MEETINGS.

The Royal Irish Academy.—At a meeting on the 11th inst. a paper by Miss Stokes was read by Dr. Ingram. It was entitled "A Description of a Series of Photographs of Early Irish Architecture." In speaking of the primary purpose for which the Round Towers were built—whether as signal towers or as houses for bells—Miss Stokes was of opinion that the first intention of the builders was for strength of defence, though bells were certainly hung in them. She regarded them, therefore, as of half military, half ecclesiastical origin. At the close of the ninth century, when Ireland's language was developing, and her schools the most frequented in Europe, the country became the battle-field of the great struggle between Paganism and Christianity in Western Europe, and in the first years of the Scandinavian invasion a number of those round towers simultaneously sprang up beside the churches most liable to be attacked. Two other series of these towers Miss Stokes traced to the renewal of the wars with the Norsemen, and also to the Norman invasion.

The Royal Geological Society.—At a meeting on Wednesday last (Rev. Dr. Haughton in the chair) the following papers were read—By Professor Hull, "On the Correlation of the Carboniferous Beds of Great Britain and Ireland." By Dr. Haughton, on "Graphite Felspar from County Donegal," and one on "A Remarkable White Stone from Middleton-hill, Lognar, Shrewsbury."

The Royal Dublin Society.—On Monday evening next, a discourse will be delivered by Mr. C. R. C. Tichborne, Ph.D., "On Coal Gas and its Applications to House Lighting." It will be illustrated by experiments.

HOME AND FOREIGN NOTES.

ARTISTIC PLASTERING.—We feel much pleasure in drawing attention to some excellent cement and plaster work executed by Messrs. Hogan and Son, Great Brunswick-street, notably that at Holy Cross College Church, Clonliffe, which was recently dedicated with great and imposing ceremony, according to the Catholic ritual. In passing through the vestibule in front, the most skilful observer might, on beholding the beautiful groined ceiling, be deceived into the belief of its being composed of solid granite, so perfect is the imitation, both in apparent solidity and in tinting. The mural plastering on the interior of the walls of nave and aisles is of Portland cement, while the shafts of the antoies are of Portland ground, finished in Parian, and presenting all the appearance of white marble. The

main entablature, cornices, architraves, soffit, and jamb panellings of clerestory, windows, and the decorations of opes throughout are of stucco of the best material. We have already said this building was erected from designs by Mr. J. J. McCarthy, architect.

THE TREES IN SACKVILLE-STREET.—These unfortunate trees are abtirst for fertilizing soil. The gardening journals are much concerned about their safety, but the Corporation at present is letting them take care of themselves. When the new "Scavenger-in-Chief" is appointed perhaps he will look them up, and recommend that a gravedigger be employed to bury the rotten branches alongside of the dying roots. The time is not exactly ripe yet for the appointment of a municipal street gardener. If the citizens will only have patience the time and the man will come, and the salary, as a matter of course, follow in some shape or another.

THE PROVINCE OF THE PRESS.—Mr. Falconer, who presides over the Glamorganshire county courts, and who has acquired a reputation for plain speaking, has just given to the world his views of the province of the Press. In an action tried on Friday, the 11th ult., at Swansea, to recover a sum of £25 for goods sold, his honour said he had been endeavouring for twenty-five years to make people understand that under the Statute of Frauds unless there was a contract in writing, or something paid on account, an action where the amount was over £10 could not be sustained. He added—"It would be a good thing if newspapers devoted a column or two to informing the public of common things that ought to be known, instead of devoting the whole of their space to what was often 'rubbish.' Then the Press might be a blessing instead of something else."—*British Mail.*

THE BUILDING TRADE.—Several trade disputes continue both in England and Scotland, and new ones are cropping up.

NOTES OF WORKS.

Some improvements have recently been effected at Glasnevin Cemetery, on the Finglas-road side, by the erection of new entrance lodge of finely-chiselled granite, massive iron railing with base of same material. A mortuary chapel also of chiselled granite, lined internally with Bath stone, is in course of erection. New roadways have yet to be formed, before opening for public entrance. The architect is Mr. J. J. McCarthy, and the builder Mr. William Murphy.

An elaborate Gothic window of finely-chiselled limestone has been recently added to the Roman Catholic Chapel, South Dublin Union. It is a three-light window, with quatrefoil traceried head in the Decorated style. The work has been designed and satisfactorily executed by Mr. C. W. Harrison, sculptor, 178 Great Brunswick-street.

TO CORRESPONDENTS.

A PASSING WORD.—This number concludes the 18th volume and eighteenth year of the existence of the IRISH BUILDER. We hope our subscribers and readers are satisfied that we have fulfilled our promises, as we are conscious ourselves that we have done so to the best of our ability. As we will not meet our friends and supporters again until New Year's Day, we wish them all a "Merry Christmas and a Happy New Year," in anticipation of both events. In the opening number of next year's volume we will have something further to say in general and particular by way of review and forecast.

We are necessitated through pressure of matter to hold over some articles and correspondence.

RECEIVED.—J. H.—G. W.—Vindex—Architect (Glasgow)—W. and Co. (London)—An Ulsterman—C.E., Cork (He is no relation)—A Carpenter (under consideration)—R. S. (send drawings)—H. A.—J. J. P., &c.

THE IRISH BUILDER.

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Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not subscribe editorially to the opinions or statements set forth in same.

We shall be glad to receive from any of our readers notes of works in contemplation or in progress. No charge is made for insertion.

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Errs's COCOA.—Some time since, in a series of articles in these columns upon food, we spoke in terms of unqualified praise of Messrs. Epps and Co's "Prepared Cocoa." The opinion we then expressed as to its purity and nutritious qualities has been fully endorsed by the public, as shown in its increased and steadily increasing consumption. We believe that Messrs. Epps's Manufactories are now the largest of the kind in the three kingdoms, and the total quantity of "Prepared Cocoa" consumed at the present time approaches four millions of pounds annually. This result is not surprising. The dietetic properties of native cocoa are well known, but in the form prepared by Messrs. Epps, Homoeopathic Chemists, they are rendered additionally valuable, both on account of their increased nutritive power and digestible character.—*Civil Service Gazette.*

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31	15	5"	50 1/2	330	18	6 1/2	2"	10 1/2	30
8	14	5 1/2	60	325	20	5 1/2	2"	10 1/2	22 1/2
4	12	6"	56	300	35	5 1/2	2 1/2	12 1/2	30
5	12	5 1/2	42	270	23	5"	4 1/2	12 1/2	35
30	10	5"	36	175	22	5"	3"	13	30
18	10	4 1/2	32	130	36	4 1/2	2"	8	17 1/2
12	9 1/2	4 1/2	28	116	40	4"	3"	11	20
8	9 1/2	3 1/2	24 1/2	90	25	4"	2"	8 1/2	14
33	8 1/2	2 1/2	18	60	37	3"	2"	5 1/2	10
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PRESS NOTICES.

Athenaeum.—We cannot now continue an examination of the contents of Mr. Brash's capital book. Let it suffice them that we recommend the perusal of the chapters on the churches of the Cistercian Order, Fonts, some of which have curious peculiarities, Masonry, and Early Christian Masonry. . . . Mr. Brash is a painstaking and accomplished student.

Academy.—Since Petrie gave to the public his (alas!) unfinished work on the Ecclesiastical Architecture of Ireland previous to the Anglo-Norman Invasion, the work which heads this article is the most important and valuable contribution to an interesting and almost unexplored branch of knowledge. . . . The volume does great credit to the enterprising publisher.

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